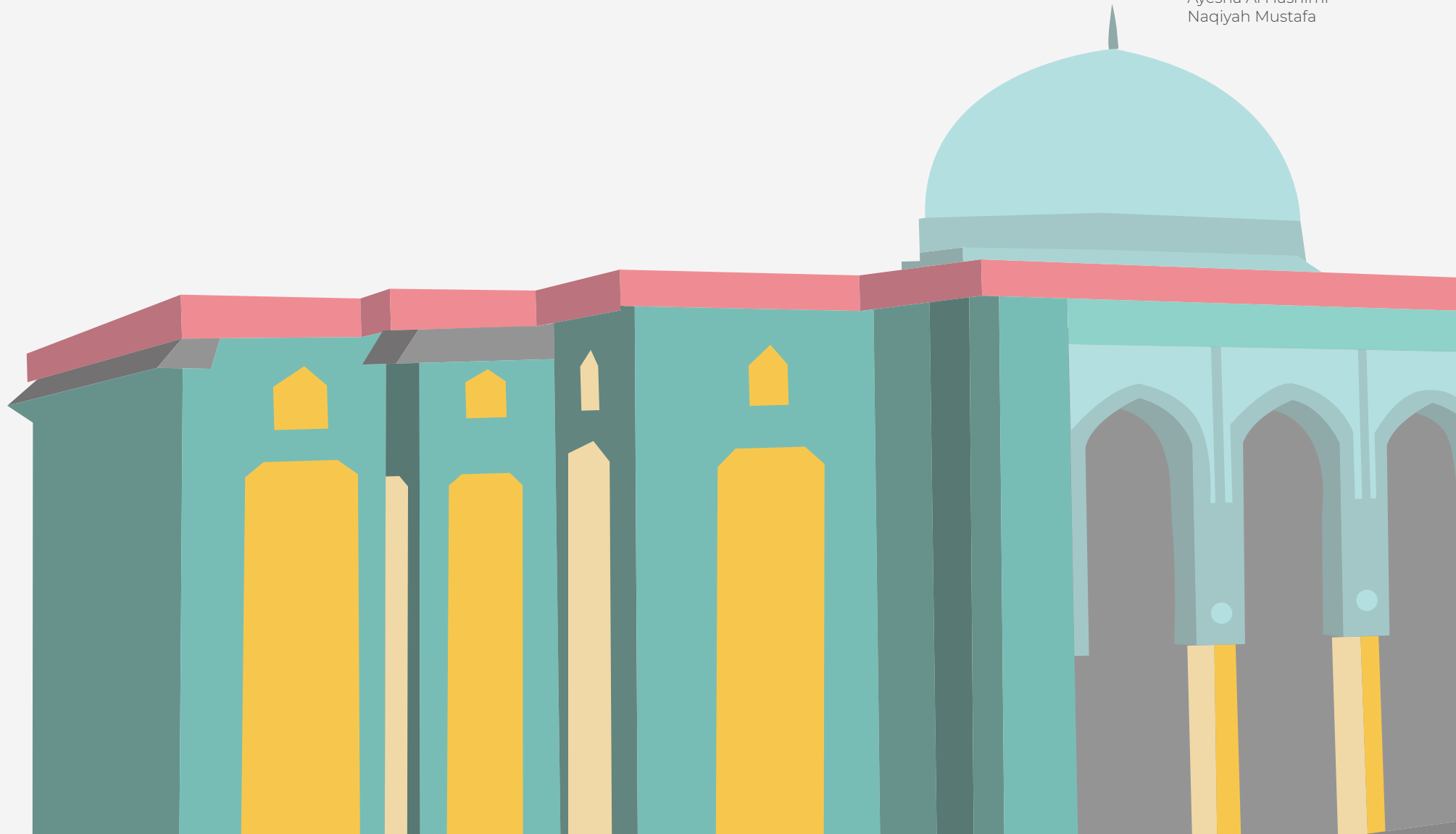


THE MISSING LINK

A SIMPLER GUIDE TO CHOOSING YOUR FUTURE

A Design Thinking Project by
Aqeela Virjee
Ayesha Al Hashimi
Naqiyah Mustafa





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INTRODUCTION

According to Johnson (2018), “No matter what you do in your life, no matter what career path you take, the ability to make the right choice when it really matters is a skill that will serve you well for the entirety of your adult life.” For this project, we decided to focus on a topic that was relevant specifically to us as college students, the process of decision-making. We initially realized that students found it difficult to make decisions, specifically long-term decisions that had a large impact on their futures. In a survey conducted amongst students at the American University of Sharjah (AUS), 71.9% of the participants had made long-term decisions that affected their lives and 40.6% were unsure whether they were happy with those decisions. As university students ourselves, we specifically used the design thinking step of “empathy,” because we understood the challenges that these students were facing. We realized that the one commonality amongst us all was our academic institution, and so we decided to focus on academic choices in particular, specifically in regards to the degree selection process.

Thus we began brainstorming with a problem statement in mind: To create a holistic experience for current and potential AUS students that enhances their degree selection process, that, in turn, helps them make long-term educational choices. From there we used various tools and methods to achieve our final solution, a way to integrate the three main touchpoints to create a more user-friendly system that benefits both potential and current AUS students.



MODE 1

Sense Intent

WHAT IS THIS MODE ABOUT?

This section revolves around detecting changes happening in business, technology, society, culture, policy, etc. It studies these trend changes and their effects on the environment around. The purpose of this section is to understand trend changes and find opportunities to establish high-value innovation through several approaches. First, gathering the latest happenings, developments, thinkings going in the field. Second, mapping overviews by taking a step back from details and forming “high-level views of the changes going on in the topic area. Third, mapping trends by creating a high-level analysis of important trends in any field. Fourth, reframing problems through framing up challenges differently based on associated trends and conductions and searching ways for the organization to establish high-value innovation. Fifth, stating initial intent through outlining hypothesis of how a company can embrace innovation opportunities (Kumar, 2012, p.10).

WHY IS THIS MODE IMPORTANT AND HOW IS IT RELEVANT TO THE PROJECT?

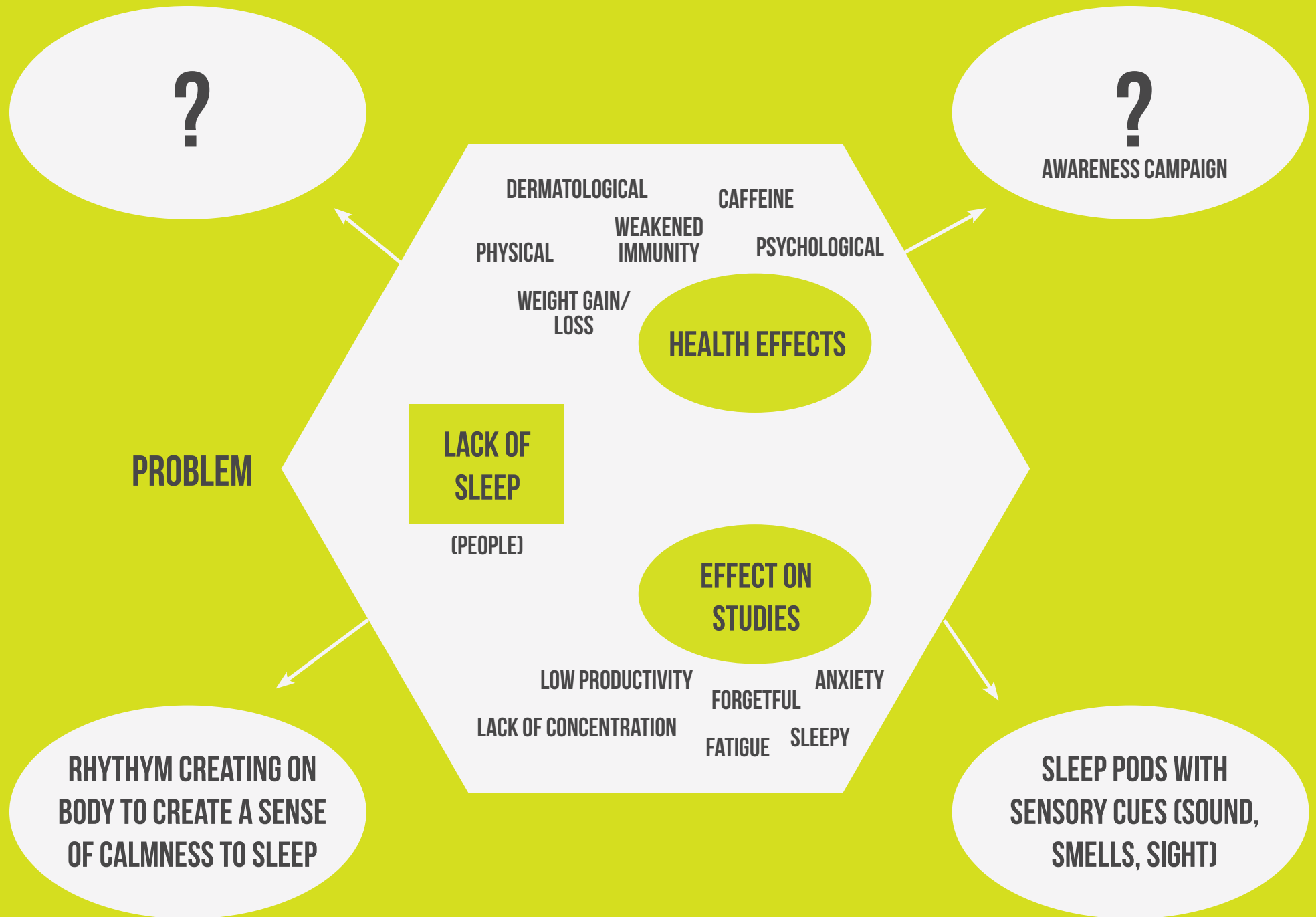
The mode is important because it focuses on understanding current trends changes, which is the beginning of the design thinking process. As Vijay Kumar (2012) states, sensing changes can help us think about which direction we should be going to for us to establish a high-level overview of innovation. This mode is essential because, in order to create good design, designers must first understand trend changes in every field, before choosing a specific topic to analyze (Kumar, 2012, p.10).

For our project, mode one is very important because it helps us detect trend changes in every market, which broadens our knowledge about what’s happening around us. This increases our choices list on which topic is we would like to focus on, in mode two. Moreover, by enhancing mode one’s tools we can gather trends’ insights and information from any specific field.

BRAIN STORM ING

Brainstorming is the first step of idea generation. It generates creative ideas and potential solutions for problems through group discussions. It helps open the individual's mind to many possible ideas and innovations by looking outside the box. Through this tool, one can look at a specific problem through different perspectives and find different solutions for it.

This was the first tool we have used to build our research paper. We looked at several current problems that we were facing as college students till we narrowed them down to one problem, which was lack of sleep. We brainstormed and discussed as a group the effects of lack of sleep on college students. This information included sleep effects on health (physical, emotional, psychological) and studies (lack of concentration, low productivity, daydreaming). After analyzing the problem effects, we brainstormed for potential solutions as designing sleep pods with sensory cues, creating an awareness campaign, smart bean bags, etc.



WORDS

Listing

Word listing was the second tool we worked on after brainstorming. It focused on a specific topic by listing down words related to that topic as symptom words. It helps in expanding the vocabulary and information about the topic. Through this tool, one can broaden their topics problem and understand its symptoms and effects in different perspectives.

This tool's process is linked to the brainstorming process, in which we used the same topic "lack of sleep" in both tools. We listed down all the words related to lack of sleep as its symptoms. Then, we choose one specific word (fatigue) from that list and built up another word list on it. Then in the third list, we listed words of the opposite meaning to "lack of sleep". Next, we linked one specific word from each list together based on significance (anxiety -sleepiness - relaxed).

INSOMNIA
SLEEP
FATIGUE
ANXIETY
TIREDNESS
DROWSINESS
MOODY
EXHAUSTION
CAFFEINATED
HYPER
INEFFICIENT
SLOW
RED EYES

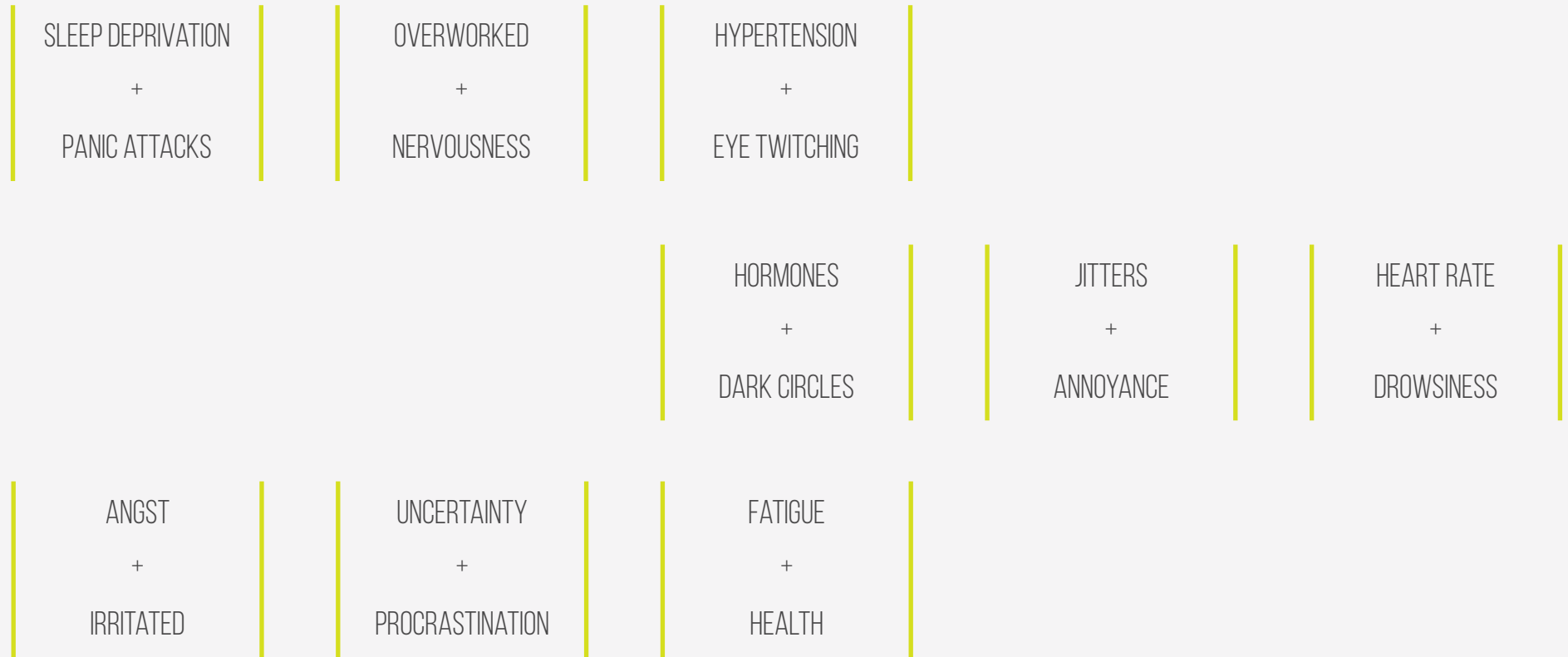
LOW IMMUNITY
HEADACHES
AGGRESSIVE
IRRITATION
TEMPERMENTAL
JITTERY
LOW PRODUCTIVITY
BAD GRADES
CRAVINGS
ATTENTION SPAN
DARK CIRCLES
DISORGANIZED
ALERTNESS

FATIGUE

SLEEPLESSNESS
CHRONIC TIREDNESS
MUSCLE WEAKNESS
HEADACHES
NAUSEA
MOODINESS
DIZZINESS
SLOW REFLEXES
ABSENT MINDED
SIGHT IMPAIRMENT
DECISION MAKING
TEMPERMENTAL
OVERSENSITIVE

HEALTHY
PRODUCTIVE
SUCCESSFUL
PROACTIVE
ORGANIZED
HAPPY
ENERGETIC
BALANCED
CALM
PLANNED

EMOTIONALLY SANE
POSITIVE MINDSET
SOCIAL
INVOLVED
ACTIVE
GOOD IMMUNITY
CONCENTRATED
ALERT
SAFE



Later, we choose several words and put them together as Sleep Deprivation + Panic Attacks / Uncertainty + Procrastination/ Fatigue + Health. After that, we choose one specific topic as Uncertainty + Procrastination and built on it through Intent Statement tool. Overall, this tool helped us discover different secondary topics that are linked to our main primary idea “lack of sleep”. It boarded our main idea and then narrowed it down to a specific secondary topic “Uncertainty + Procrastination” that we could focus on in detail in Intent Statement tool.

Clustering

Intent Statement is a tool that builds initial innovation intent by identifying opportunities through analyzing latest developments, seeing the bigger pictures, detecting modern trends, and reframing problems. Through intent statement once can gain knowledge and information about what's happening now in each field (Kumar, 2012, p.49).

This tool was relevant to us because we needed to identify opportunities that can be developed into innovative concepts. We chose this tool because it helped us list latest developments, trends, and problems. Then, narrow it down to one specific topic based on its highest potential for innovation opportunities by defining their limitations, intentions, and aspirations. This tool helped us establish our select specific topic area through brainstorming as a group. We were able to specify our idea's problem, audience, failures, new value, opportunities, and risks. This process helped us narrow down our broad topic area for the mode two (Kumar, 2012, p.49).

Intent State ment

LIST DOWN CURRENT TRENDS, DEVELOPMENTS, AND PROBLEMS

- Uncertainty and procrastinating
- Sleep depression and panic attacks
- Long-term decision making
- Lack of sleep and college students
- Sleep deprived and lack of concentration
- Decision making and college students

SELECTED IDEAS THAT HAVE HIGH POTENTIAL FOR INNOVATION OPPORTUNITY

- Lack of sleep and college students
- Decision making and college students

DECISION MAKING AND COLLEGE STUDENTS

- Limitations (what are the constraints?): it's hard for students to make long-term decisions regarding college life as which courses to apply for. It could be due to time constraint or cost constraint or health problems.
- Intentions (What should be the goals?): to help college students choose the right decision in a short time period.
- Aspirations (what will be nice to have?): college students could have help from parents, college friends, alumni on how to make the right decision.

LACK OF SLEEP AND COLLEGE STUDENTS

- Limitations (what are the constraints?): students have difficulty in concentraion and studying due to lack of sleep
- Intentions (What should be the goals?): help students manage their time between sleeping and studying equally.
- Aspirations (what will be nice to have?): college students could have help from parents, college friends, alumni (someone they can connect with) on how to manage their time efficiently.

CHOSEN IDEA: DECISION MAKING AND COLLEGE STUDENTS

DECISION MAKING AND COLLEGE STUDENTS


- Problem: college students find it difficult to make long term decisions related to college life
- Audience: undergraduate college students
- Failures: college students fail to make the right decision due to lack of knowledge, advice, experience, and social support as friends and family
- New value:
 - o helping college students make the right decision in a short time period
 - o offering college students advice and knowledge from professor and alumni
- Opportunity: help college students make the long-term decisions without facing difficulties
- Risk: college students might not be able to receive enough advices, knowledge, feedback, tips on how to make the right decision

STEP
1

STEP
2

STEP
3

STEP
4



MODE 2

Know Context

WHAT IS THIS MODE ABOUT?

This section mainly focuses on situations or events that influence the environment based on whether innovation offerings (products, services, experiences, brands, etc.) exist or could exist. It studies competitors who have similar offerings by analyzing their performance in the market. Also, it looks at what “is transforming in the innovation context as society, environment, industry, technology, business, culture, politics, and economics” (Kumar, 2012, p.10). The purpose of this section is to gather secondary sources in order to understand targets markets movement from local-to-global and narrow-to-broad, which provides more knowledge and context about the selected topic. This process is developed through several approaches. First, planning for research by creating a work plan with the group to understand the context of the topic as timetable, budget, resources, tools, methods, expected deliverables. Second, search the knowledge base by reading a large number of information from existing sources for similar patterns as academic books, articles, journals, etc. Third, forming comparisons by creating overviews of other competitors and seeing how they relate to the selected topics industry and market. Fourth, asking experts in the field for their opinion, recommendations, and analytic about the selected topic (Kumar, 2012, p.10).

WHY IS THIS MODE IMPORTANT AND HOW IS IT RELEVANT TO THE PROJECT?

The mode is important because it focuses on collecting important data and contexts about the selected topics market position and performance compared to its competitors. This analysis helps determine the changes in the market's environment and whether the idea has a potential of innovation opportunity. As Vijay Kumar (2012) states, “In the Know Context mode, we move to gain a full understanding of the surrounding conditions in which those changes happen” (Kumar, 2012, p.51). This mode is important because, in order to create good design, designers must first understand the idea's context by gathering large amount of data.

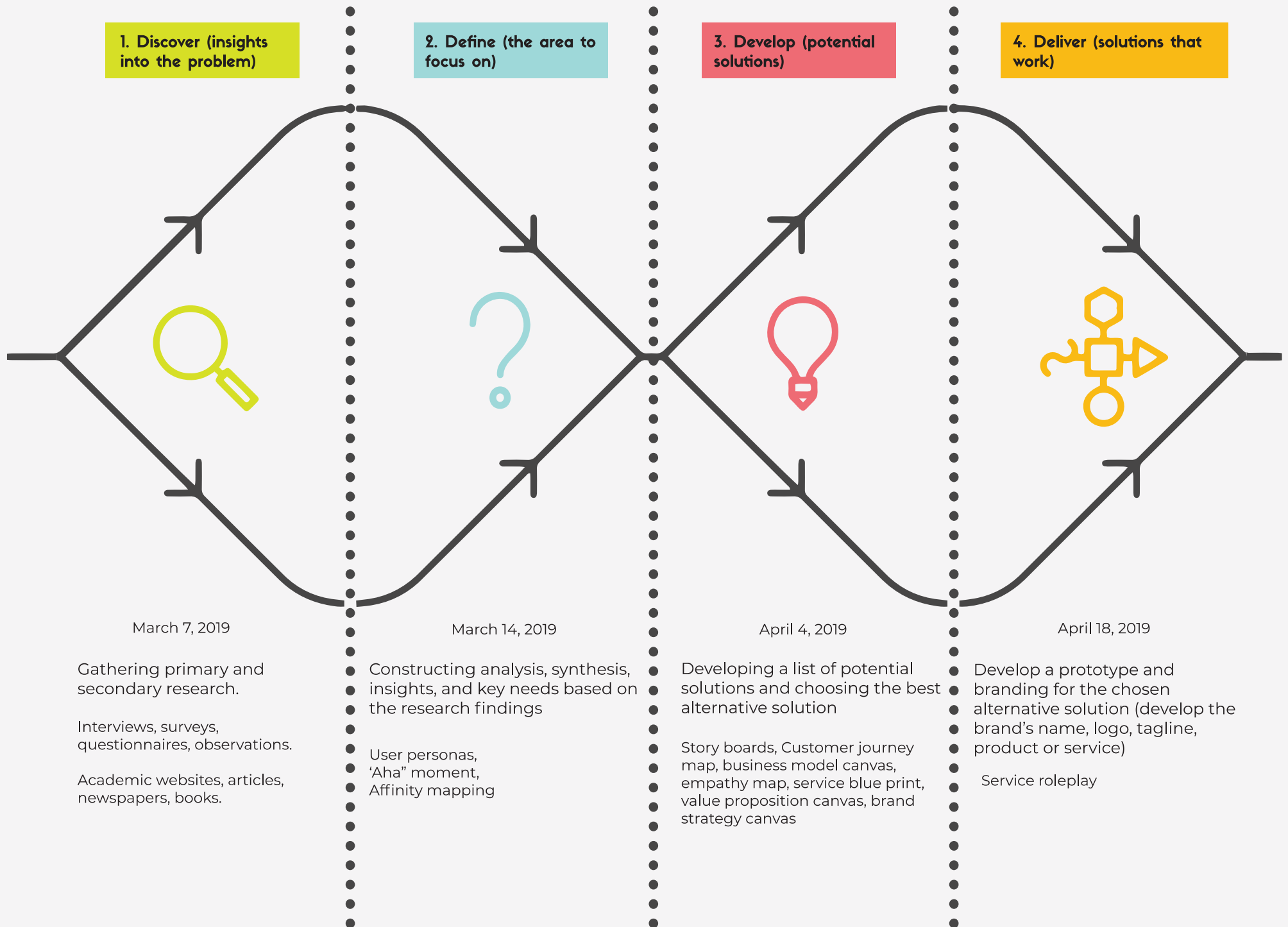
For our project, mode two is very important because it helps us organize a research plan on how the project would be build step by step. Also, it helps us understand our topic deeply by collecting secondary research from academic sources. Hence, through the tools in this section, we can gain more data about the decision making the process for these students.

Contextual Research Plan

Contextual Research Plan is a tool that develops schedules and plans on what to research on and how to accomplish it step by step. Through this tool, one can organize and identify the research topic area, sources, methods, and timing (Kumar, 2012, p.61).

This tool was relevant to us because we needed to organize our research paper's strategy and group meetings. It helped us identify our topics area and list suitable tools and methods we could use in our paper. Also, it helped us establish time management by determining a specific timeline for weekly group meetings to work on. We chose to use Contextual Research Plan in order to plan our research paper step by step and in detail. It helped us by narrowing down our options and focus on specific tools, methods, sources. It kept us focused on finishing each part of the paper on time due to the deadlines we set for ourselves in the research plan (Kumar, 2012, p.61).

The findings helped us organize our research paper and its content based on the process of how we gained each piece of information and context. We were able to understand our topic more deeply about how to improve students decision-making skills by helping them gain confidence and independence. This helped us choose the suitable tools for this topic and use it to gain secondary data. Also, this tool helped us in building up our paper further for mode three in terms of gaining primary research sources and establishing our target market needs/wants.



PROBLEM STATEMENT

Problem Statement: How might we enable students towards better decision making skills, to help them gain confidence and become more independent for their life after university?

1

DEFINE AREAS OF RESEARCH

For this project, our topic revolves around decision making amongst university students. The general area that we need to study revolves around these students, their everyday lives and the decisions involved. This is important to study because they are our target audience and in order to solve the problem we must fully understand it and the people facing the problem.

For this project, what is known through our own experience is that students find it difficult to make decisions in their everyday lives. We assume that this applies to majority of university students, but we have no actual evidence for that as of yet. What is unknown are the exact areas in which students face the most difficulty deciding. For further research, we can even go into the underlying causes of indecisiveness, and see if there is a correlation between the year in which young adults are born and their decision making capabilities.

2

DEFINE SOURCES

We need to gather facts and academic sources for this project. In addition, we need to find out to what extent this problem affects students on our campus and what are they most indecisive about. We also need to look into other factors that may influence their indecisiveness.

The secondary information can be obtained from the internet, news articles, academic journals, and books from the library. We will gather our primary research through various methods, including: interviews, observations, and surveys. In addition, we will talk to those who have experience in our topic, this includes students who undergo decision making, professors who spend a lot of time with college students, and parents of the college students.

3

DEFINE METHODS

Two research methods will be used to collect data. The primary search will gather in-depth information about the target audience through interviews, surveys, questionnaires, and observations. These methods will give us fresh and accurate information directly from the source, which is by studying CAAD students' daily behaviors and routines that affect their decision-making. The secondary research will gather general academic information about the target audience from websites, articles, newspapers, case studies, and books. These methods will give us broad information about other college students that face similar difficulties in decision making. Some relevant sources that we found in regards to our topic so far are (State of the art review):

<https://blog.alexdevero.com/psychology-design-pt9-decision-making/>

Alex Devero in "Psychology of Design Masterclass – 7 Important Facts About Decision Making" elaborates on the psychological aspects behind decision making. The article refers to Thinking, Fast and Slow written by psychologist Daniel Kahneman.

<https://www.umassd.edu/fycm/decision-making/collegechoices/>

This webpage by world renowned university, Dartmouth, talks about the decision making process, specifically in regards to students. In addition, the page lists common decisions that university students need to make.

<https://www.thesimpledollar.com/common-money-mistakes-college-students-make/>

This article talks about poor decision making amongst students and the mistakes they make. The author, Kristen Kuchar, specifically focuses on financial decision mistakes.

<https://www.makeuseof.com/tag/indecisive-make-right-choices-apps/>

In this article, Joel Lee talks about smartphone applications that currently exist in the market to aid in decision making. According to the author, these applications are meant for people who suffer from "analysis paralysis," a situation when overanalyzing leads to inaction.

After collecting enough qualitative and quantitative data, we will be able to construct analysis, synthesis, insights, affinity mapping, and key needs based on our research findings.

Publications Research

Publications Research is a tool used for understanding what is written about a specific topic. As searching and reading key publications that discuss industry leaders and professionals point view about a specific topic. Through Publications Research one can study search results and noticeable patterns about current trends and developments in the context (Kumar, 2012, p.65).

This tool was relevant to us because we needed to gather secondary information about our topic regarding its context, relevance, and market competitors. This information was able to inform us of current trends and developments in the market. We chose to use Publications Research in order to gather enough written evidence and data about the importance of our topic in the market. We were able to analyze the secondary research in detail based on its title, author, type, summary, and references. This information gave us enough credibility to support of topics idea (Kumar, 2012, p.65).

The findings of this tool helped find credible and academic sources to support our topic's idea. It gave us insights into other people's experiences, knowledge, and perspectives about college students' decision-making problems. It provided us with several interesting facts and points about how other competitors improved students' decision-making skills by helping them gain confidence and independence. Hence, this tool was very beneficial us to use since it was able to link and relate to the primary research data as well.

TITLE	AUTHOR	TYPE	SUMMARY	REFERENCE
Decision-Making Should Be a Required Course in Every High School	Steven Johnson D.O.P: Sep 12, 2018	Article and Book	The article discusses Steven's personal experience with decision-making. He believes that students should be taught decision making from high-school so, it would help them their college life.	Johnson, S. (2018). Decision-Making Should Be a Required Course in Every High School. Retrieved from: https://medium.com/s/story/farsighted-decision-making-should-be-a-required-course-in-every-high-school-6b5a836c1e1e
Common Money Mistakes College Students Make	Kristen Kuchar D.O.P: Dec 13, 2017	Article	The article discusses college students bad decision-making regarding their college fees as missing out on scholarships, abusing credit cards, not filling out FAFSA, being disorganized, not having a budget, etc.	Kuchar, K. (2017). Common Money Mistakes College Students Make. Retrieved from: https://www.thesimpledollar.com/common-money-mistakes-college-students-make/
The main factors that influence the decision in choosing a path in Tertiary Education	Emilia Țițan, Andreea Ardelean, Daniela Manea, Cristina Boboc, Burciu Andreea D.O.P: 2015	Article	The article discusses Romania college students decision-making process. It conducted surveys that measured their satisfaction level regarding their decisions about which major to select as a future job.	Țițan, E., Ardelean, A., Manea, D., Boboc, C., & Andreea, B. (2015). The main factors that influence the decision in choosing a path in tertiary education. Procedia Economics and Finance, 32, 850-854.
What Factors Influence College Choice for Today's Students?	Matt Mcfadden D.O.P: March 9, 2015	Article	The article discusses the factors that college decision-making for today's students, which could be due to geography, finance, parents, etc.	Mcfadden, M. (2015). What Factors Influence College Choice for Today's Students? Retrieved from: https://www.upandup.agency/reasons-students-choose-university



MODE 3

Know People

WHAT IS THIS MODE ABOUT?

This section revolves around understanding users and “gaining an empathic understanding of people’s thoughts, feelings, and needs by listening observing, interacting, and analyzing” (Kumar, 2012, p.88). The purpose of this section is to observe people, what they say, do, and think, in order to gain insights which can help us create “entirely new categories of products, services, or business strategies that fundamentally address people’s needs and desires, create significant new value, and are very hard to copy” (Kumar, 2012, p.88).

WHY IS THIS MODE IMPORTANT AND HOW IS IT RELEVANT TO THE PROJECT?

This mode is important because it focuses on understanding people better, which is at the core of the user-centered design process. In this modern fast-paced world, Vijay Kumar (2012) states that, “it has become important to re-emphasize the centrality of users to the process” (p.87). This mode is essential because in order to create good design, designers must first understand people’s needs, challenges, and behaviors.

For our project, mode 3 is very important because it helps us gain insights on our target market, university and high school students. Through the tools in this section we can gain insights about the decision making process for these students.

Surveys

Surveys are a defined research tool used to collect data from a certain set of people about a predefined topic of interest. Through surveys one can gain insights and information regarding their topic from a large number of respondents.

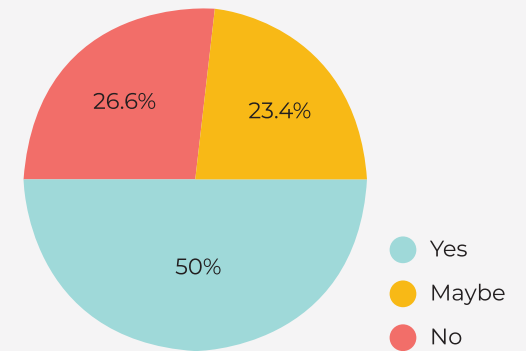
This tool was relevant to us because we wanted to first understand our users and some basic insights about their decision-making processes. We chose to use online surveys in order to get more accurate responses, as it was a less intimidating approach. In addition, through surveys we were able to get unbiased data that helped us narrow down our topic. Furthermore, surveys were easy to take and easy to administer.

***ALL SURVEY QUESTIONS AND RESULTS ARE INCLUDED IN APPENDIX**

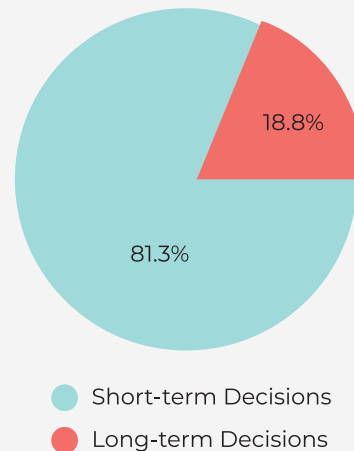
From this tool, we got some basic insights that helped us narrow down our topic. We discovered that 71.9% of the participants had made long-term decisions that affected their lives, majority of those decisions were related to academia. In addition, 40.6% of people surveyed stated that they were unsure whether they were happy with the decisions that they made. Finally, 81.3% of students specified that it was easier for them to make short-term decisions as opposed to long-term decisions.

Through these results we began to think about how we could make the process of making long-term decisions easier for these students, especially in regards to university, so as to help quicken the process and enhance their satisfaction with the decisions they made.

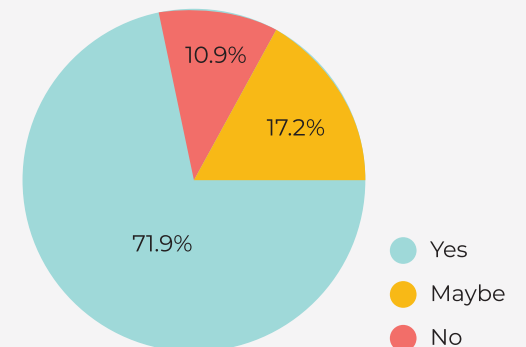
Would you consider yourself an indecisive person?



Is it easier for you to make short-term decisions or long-term decisions?



Have you made any long-term decisions that have affected your life?



Interviews

***ALL INTERVIEW RESPONSES IN APPENDIX**

An interview is a research method that consists of a set of questions asked by an interviewer in a one-on-one discussion with users. The questions are usually broad and allow the people interviewed to voice their opinions. The responses are then recorded by the interviewer and systematically analyzed in relation to the other interviews.

This tool was important for us to “know people” because it gave us more detailed responses as opposed to surveys. Also, we used open-ended questions that provoked dialogue for more information and insights. This also gave us the opportunity to uncover solutions we might not have noticed or unmet needs and challenges we might have overlooked.

During the interview process, we asked eight questions, which are as follows:

Name? Major? Gender? Academic standing?
What decisions do you make on a daily basis?
Does it take you long to make everyday decisions?
What about long-term decisions?
What are some important decisions that you have made in your life?
In your opinion, what are some areas in your life that you find great difficulty making decisions?
Do you have methods to help you make decisions faster/easier?
Do you think you need help making difficult decisions?
Would it benefit you if someone or something helped you to make faster decisions?

WE INTERVIEWED A BROAD RANGE OF AUS STUDENTS AND ALUMNI AND DISCOVERED SOME IMPORTANT INFORMATION THAT HELPED US UNDERSTAND OUR USERS FURTHER. SOME OF THE IMPORTANT QUOTES WERE:

1. Long term decisions take longer because they require more commitment and surety of mind as opposed to every day decisions.
2. I have difficulty making long term decisions because I know that these decisions will define my future and can potentially affect different aspects of my life.
3. Most decisions related to education, for example which subjects to take up in school, what major to pick for university.
4. Picking my major was one of the hardest decisions I had to make because it's something that would impact my entire future. And I think till date it still remains one of my most important decisions.
5. Currently, the hardest decision I'm trying to make is to figure which colleges I need to apply to for my masters program.
6. Long-term decisions on the other hand take me very long to make. I usually spend hours thinking about it, consult with other, have panic attacks along the way, and then sometimes once I make them I feel like I made the wrong decision. So, in order to avoid that I really spend a lot of time and energy making long-term decisions.
7. I was young when I had to decide what major I wanted to take in university. Knowing that my decision would affect my whole future really scared me, and it was very hard for me to decide what I wanted to do.
8. But bigger things, like what I am going to do in the future and deciding what I wanted to study took my quite long and sometimes I feel like I made the wrong decision.

These results helped us realize that indeed a lot of these students had difficulty making long-term decisions, specifically in regards to university, and many of them regret their decisions later on in life.

OBSERVATIONS

Observing users is an important aspect of the design thinking process, it helps us gain a deeper understanding of the people we are designing for. In addition, photographing users allows us to later analyze the images and uncover needs that we might not have been aware of. The overall essence of observing is to empathize with users and uncover key needs and insights.

This tool was relevant to our understanding of the problem because instead of just talking to users about their decision-making processes, we actually observed it happening. This allowed us to further empathize with the students and understand how they made decisions, what decisions were difficult to make, and how their surroundings affected these decisions.

From this tool we realized that although there was a slight need for help in making short-term decisions, such as at coffee shops or at the vending machine, most users had low uncertainty and high satisfaction. Thus, we were sure that we needed to focus on long-term decision making amongst students.



FAST DECISION MAKING (SHORT TERM)						
	VENDING MACHINE	STARBUCKS	BOOKSTORE	CO-OPERATIVE SOCIETY	PRINTSHOP	EVENT BOARD
DECISION DURATION						
	1 - 2 MINUTES	2 - 4 MINUTES	1 - 2 MINUTES	3 - 4 MINUTES	1 MINUTE	3 - 4 MINUTES
UNCERTAINTY LEVEL IN DECISION						
	LOW	LOW	LOW	MEDIUM (MANY OPTIONS TO CHOOSE FROM)	LOW	HIGH (MANY OPTIONS TO CHOOSE FROM, TIME CONSTRAINT)
THOUGHT OF ALTERNATIVE DECISIONS						
	YES	YES	NO	YES	NO	YES
SATISFACTION LEVEL AFTER DECISION						
	MEDIUM (WANT MORE OPTIONS BUT DON'T HAVE TIME TO GO TO COOP)	HIGH	HIGH	HIGH	HIGH	LOW (WANT TO GO BUT TIME CONSTRAINTS)
FACTORS AFFECTING FINAL DECISION MAKING	MOOD, TIME AND MONEY CONSTRAINTS, PREVIOUS EXPERIENCE WITH PRODUCT ENVIRONMENTAL FACTORS: CROWDED, WEATHER, LONG OR SHORT DISTANCE, INTERIOR SPACE COLOR/ DESIGN					

5 Human Factors

According to Vijay Kumar (2012), “The Five Human Factors is a method for supporting observation in the field, prompting researchers to look for the physical, cognitive, social, cultural, and emotional elements present in any situation to understand how they affect people’s overall experiences” (p.103).

This tool helps us understand users holistically and give us a deeper understanding of them in relation to our topic. In addition, the tool helps to break down the experience of the user into these five parts and then understand how they assemble together to form an overall experience.

We decided to use this tool, because according to Kumar (2012), there are many benefits. These benefits include:

- Broadens mindset
- Encourages comprehensiveness
- Focuses on details
- Focuses on experience
- Gives focus to the process

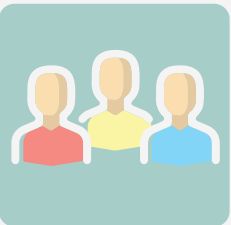
From this tool we managed to understand student’s decision making processes from a more rounded approach. In regards to long-term decision making, we realized that students research a lot before making these decisions and talk to people with more experience. In addition, a lot of the students spoke about how they were young, inexperienced, or did not have enough information when making important decisions such as choosing their major, which led to regret later on. Furthermore, due to the cultural aspect of reliance on parents, we realized that it was especially hard for students in this region to make long-term decisions at such a young age.



1. Sometimes scratch head when making decisions
2. When it comes to everyday decisions, it depends on their level of comfort with the place. Loyal Starbucks customers, for example, decide their drink within seconds, while new customers spend 3-4 minutes surveying the menu.
3. For more important decisions, many of students we observed/interviewed said they make lists with the pros and cons
4. "I tend to go over the pros and cons of every option at least ten times"



1. Before making important decisions, students research the decision they are making. (ex: Read catalog for university before deciding on major)
2. "I always change my mind with anything in life, serious important matters or small things."



1. Many students rely on their friend's opinions and advice when it comes to smaller decisions. Some students were even asking the employees at restaurants/cafes for food suggestions.
2. For bigger decisions, students tend to talk to people with more experience, such as advisors or professors.
3. Most students said that they would not make a large decision without consulting a few people.
4. "Need other people opinion when choosing"



1. Many students on campus come from Arab families. The culture emphasizes a lot of reliance on parents, even for financial means. Thus, when students are meant to make big life decisions once they enter university, it is even harder for them.



1. "Because when it comes to myself I am wary of whatever the outcome of the decision I make"
2. "Regret my decisions later"
3. "I always think about the "what if" scenarios and make belief that there are other versions of myself making better decision and living a better life."
4. "I can't make decisions and deciding things gives me anxiety."

PHYSICAL

- Scratch head when decision making
- Everyday decisions depends on level of comfort
- Many interviewees make pros/cons list

COGNITIVE

- Research before important decisions
- Students often change mind later

CULTURAL

- Arab culture -> reliance on parents



SOCIAL

- Rely on opinions for small decisions
- Talk to experienced people for big decisions
- Many interviewees need to consult before making big decisions

EMOTIONAL

- Regret decisions later
- Deciding gives students anxiety
- Think of 'what if' situations after decisions are made

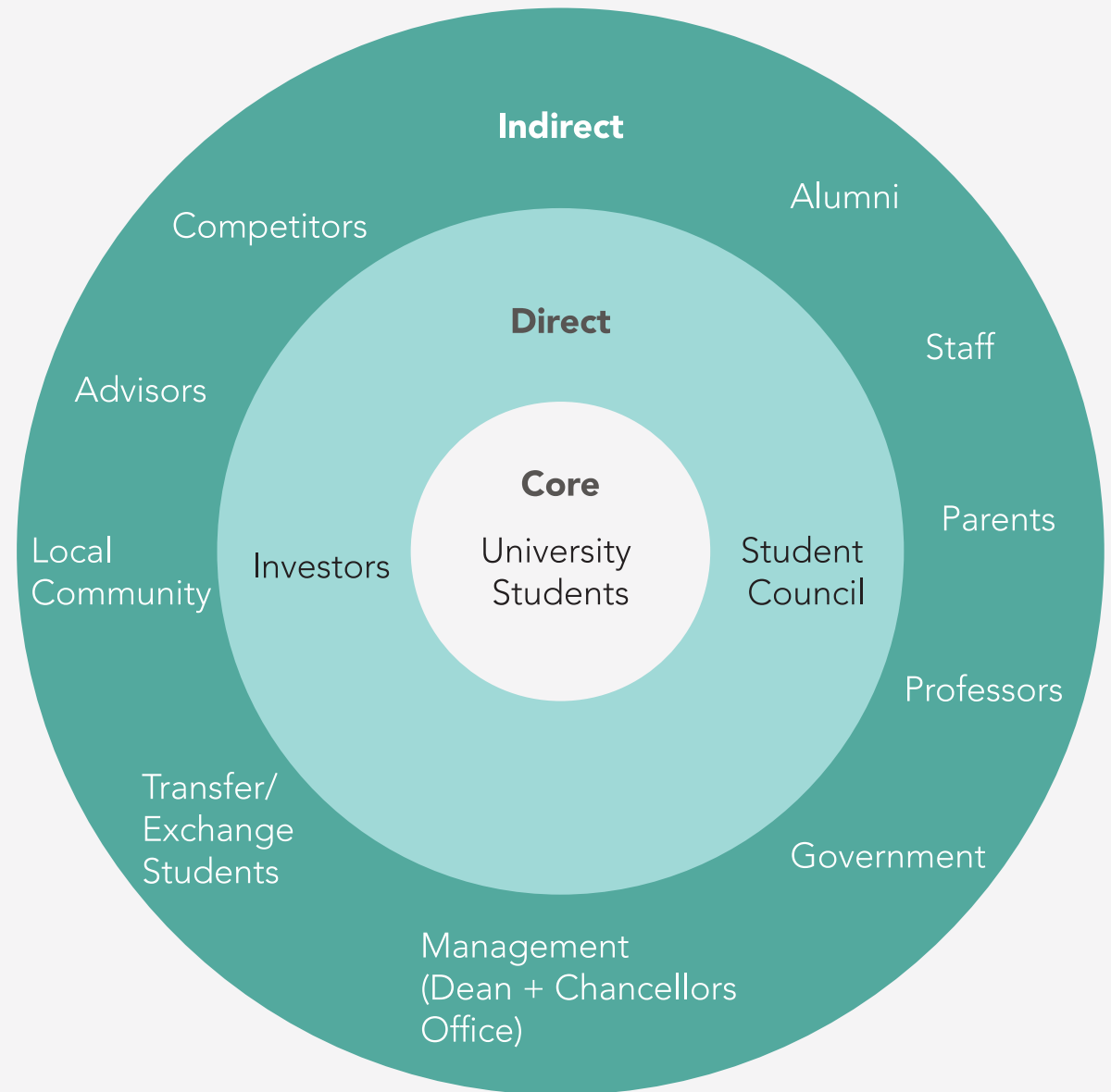
The purpose of the stakeholder map is to determine the stakeholders involved and the level to which they affect the project. Stakeholders are entities that can affect or be affected by the project. These stakeholders can be divided into three categories:

- Core – The stakeholders at the core are at the center of the project, the project is specifically targeted towards them
- Direct – Direct stakeholders interact directly with the project.
- Indirect – Indirect stakeholders are all the other individuals who are somehow affected by the project.

Using a stakeholder map was essential in this mode because stakeholders can make or break a project. Stakeholders who dislike the project or are not informed enough about it can put an end to it. In addition, stakeholder mapping is essential because it: helps uncover ways to influence stakeholders, helps to discover risks, and helps notice positive stakeholders that we can involve in the design process.

From this process, we came up with the following stakeholder map:

Stakeholder Map



From this we realized that although our core target audience are university students, we will need the aid of students with influence, such as the student council, as well as investors to pursue our project. Furthermore, we recognized the influence of parents on students' decision making and took note that they must be considered during the ideation phase.



MODE 4

Frame Insights

WHAT IS THIS MODE ABOUT?

This section revolves around sorting, clustering, and organizing the gathered data of the three previous modes. It analyzes the data based on relevant and repeated patterns that could lead to highly innovative opportunities. This mode uses a mixture of different methods to gain multiple perspectives on the context for a better understanding (Kumar, 2012, p.11).

The purpose of this section is to analyze all the gathered data and find repeated patterns between them. Then, it generates guidelines and principles, which could help establish the next mode five of searching concepts and framing solutions. This mode establishes several concepts. First, finding insights by identifying repeated patterns in the primary and secondary research results about people and context. Second, modeling systems through diagramming the context in which it shows “the competent, relationships, attributes, and value flow” (Kumar, 2012, p.11). Third, finding clusters by “storing data in different ways, finding groups, and revealing high-level insights” (Kumar, 2012, p.11). Fourth, finding patterns through diagrams, gaps, and overlaps. Fifth, mapping experiences through user journeys, which discovers pain points and opportunities. Sixth, making frameworks by summarizing and translating insights into guidelines that encourage idea generation (Kumar, 2012, p.11).

The mode is important because it focuses on understanding all the gathered data and finding repeated patterns between each other, which could help build main insights. As Vijay Kumar (2012) states, “We move from researching and collecting data to applying various analytical frameworks to the data so that we can organize our thinking and gain a clear perspective” (Kumar, 2012, p.129). This mode is essential because, in order to create a good research paper, designers must first gather all the needed information to understand the target audiences’ needs and wants.

For our project, mode four is very important because it helps us analyze all data and dig deeper to find the core of the problem through insights analysis. Through the tools in this section, we can gain different perspectives about each insight as to how it difficult for different students to make decisions on a daily basis.

WHY IS THIS MODE IMPORTANT AND HOW IS IT RELEVANT TO THE PROJECT?

Observations to Insights

Observations to Insights is a basic research tool used to extract relevant information or insights from all the collected observation data from previous modes. It “is the act of “seeing into” a situation or understanding the “inner nature” of what we observe” (Kumar, 2012, p.139). Through Observations to Insights, one can gain information regarding their topic from different sources (as primary) by analyzing it's a value to the main idea.

This tool was relevant to us because we wanted to gather all our researched information into a single paper by narrowing it down, based on its level of importance. We choose this tool because it helped us combine all our observations' data like photos, audio recordings, and facts. Then, we wrote down and explain the repeated information patterns in bullet points, which made it clearer and simpler for us to understand our topic's problem.

The findings of this tool helped us summarize our collected data regarding college students difficulty in making long and short term decisions. We were able to empathize with our target audiences and understand the processes that they went through to make a decision regarding their college life. This tool helped us in building insights for our next tool, which is named Symmetric Clustering Matrix.

DECISIONS MADE ON A DAILY BASIS:

WHAT TO WEAR
WHAT TO EAT
ACTIVITIES TO DO
EPISODES ON NETFLIX
CLASSES TO ATTEND
TIME TO LEAVE FOR UNI
TO STUDY OR NOT
GO OUT WITH FRIENDS OR NOT
HOW TO MANAGE TIME
HOW TO ORGANIZE SCHEDULE

IMPORTANT DECISIONS IN LIFE:

WHAT TO STUDY
WHERE TO STUDY
WHAT FIELD TO WORK IN
TO DO A MASTERS PROGRAM OR NOT
RELIGIOUS DECISIONS - HIJAB
HEALTH RELATED DECISIONS
MAKING LONG-TERM DECISIONS
DECISIONS THAT AFFECT OTHERS
THINGS INVOLVING FUTURE
THINGS THAT WILL IMPACT LATER

WOULD HELP MAKE BETTER DECISIONS:

ADVICE FROM OTHERS
RESULTS/ CONSEQUENCES
CONFIDENCE
MORE INFORMATION AND RESEARCH
TAKE A BREAK OR DISTRACT YOURSELF

HOW DECISIONS ARE MADE:

PROS/CONS LIST
DO RESEARCH
FAMILY ADVICE
ASK FRIENDS
SECOND OPINIONS
PANIC UNTIL FORCED TO MAKE DECISION
PRAY TO ALLAH
RANDOM SELECTION FROM LIST OF OPTIONS
LIST ALTERNATIVE CHOICES

WHAT INFLUENCES THEIR DECISIONS:

MOOD/ EMOTION
PHYSICAL AND MENTAL HEALTH
INTERIOR SPACE DESIGN
CROWDED AREAS
HIGH NOISEY SPACE
BAD SMELL SPACE
WEATHER
SHORT OR LONG DISTANCE TO REACH THE DESIGNATED SPACE
PRICE AND COST
TIME CONSTRAINT
PREVIOUS EXPERIENCE WITH THE PRODUCT OR SERVICE
BAD OR GOOD REVIEWS ABOUT THE PRODUCT OR SERVICE
HAVING MANY ALTERNATIVE DECISIONS CAUSES CONFUSION

Symmetric Clustering Matrix is a tool used to gather and group set of entities by studying their relationships with each other. It helps in establishing patterns from an unstructured list of insights. Through Symmetric Clustering Matrix one can gain reveal high-level order that could help in developing frameworks and encouraging concept exploration (Kumar, 2012, p.159).

This tool was relevant to us because we wanted to form relationships between unstructured insights that could discover hidden and important relationships that we couldn't see. We chose to use this tool in order to clarify how similar the different insights are one to another by sorting and clustering them together. This assisted us in discovering new innovative opportunities. Additionally, we listed a cluster of insights in a matrix table and determined their relationship between each other by scaling them in numbers. For instance, "(0) means no relation between entities, (1) means minimum relation, (2) means medium relation, and (3) means maximum relation" (Kumar, 2012, p.159). Then, we defined and names the clustered insight that has the highest relationship with one another.

Symmetric Clustering Matrix

EXTERNAL INFLUENCE

	People decide what to wear on a daily basis	People decide what to eat on a daily basis	People decide activities to do on a daily basis	People decide what to watch on a daily basis	People decide what classes to attend on a daily basis	People decide what time to leave for uni on a daily basis	People decide whether to study or not on a daily basis	People decide whether to hang out with friends or not on a daily basis	People decide how to manage time on a daily basis	People decide how to organize schedule on a daily basis	Decisions are made through pros/cons list	Decisions are made through research	Decisions are made through family advice	Decisions are made through friends' opinions	Decisions are made through panic until forced to make decisions	Decisions are made through random selection from list of options	Decisions are made through praying to Allah	Decisions are made through listing alternative choices	Advice from others would help make better decisions	Results/consequences would help make better decisions	Confidence would help make better decisions	More information and research would help make better decisions	Taking breaks would help make better decisions	Distracting yourself would help make better decisions	Emotions influence decisions	Physical and mental health influence decisions	Interior space design influence decisions	Crowded areas influence decisions	High noisy space influence decisions	Smell of the place influence decisions	Weather influence decisions	Distance to reach destination influence decisions	Price and cost influence decisions	Time constraint influence decisions	Previous experience with product/service influence decisions	Reviews about product/service influence decisions	Having many alternative decisions causes confusion	What to study is an important life decision	Where to study is an important life decision	What field to work in is an important life decision	To do a masters program or not is an important life decision	Hijab (religious decisions) is an important life decision	Making decisions that affect others are more important	Making decisions that impact the future are more important		
People decide what to wear on a daily basis	3	1	1	1	1	1	1	1	1	0	0	2	3	3	3	0	2	2	0	3	0	0	0	0	0	1	1	1	0	0	0	0	3	2	3	3	2	3	3	0	0	0	0	2	0	0
People decide what to eat on a daily basis	1	3	1	1	1	1	1	1	1	2	2	2	3	3	2	0	3	2	0	0	1	0	0	0	3	3	2	2	2	2	2	2	2	3	3	2	3	3	3	0	0	0	0	0	0	
People decide activities to do on a daily basis	1	1	3	1	1	1	1	1	1	1	2	3	2	3	2	0	1	2	2	2	1	2	2	0	3	3	2	2	1	1	3	2	1	0	1	0	1	0	1	0	1	0	3			
People decide what to watch on a daily basis	1	1	1	3	1	1	1	1	1	1	2	3	3	3	3	0	3	3	0	0	2	0	1	0	3	3	3	2	2	0	1	0	2	3	3	3	2	0	0	0	0	0	0	0		
People decide what classes to attend on a daily basis	1	1	1	3	1	1	1	1	1	1	0	1	3	2	0	0	3	2	0	3	3	3	1	0	0	3	3	2	2	1	2	3	3	0	2	2	3	1	1	1	0	1	2			
People decide what time to leave for uni on a daily basis	1	1	1	1	3	1	1	1	1	2	0	1	3	0	0	0	1	2	3	3	1	2	0	0	3	3	2	3	0	0	3	3	2	3	2	0	2	1	2	0	0	1	2			
People decide whether to study or not on a daily basis	1	1	1	1	1	3	1	1	1	3	0	0	3	3	0	2	2	2	3	3	3	3	2	0	0	3	3	3	3	3	3	3	2	0	1	3	3	2	2	2	2	0	0	3		
People decide whether to hang out with friends or not on a daily basis	1	1	1	1	1	3	1	1	3	0	2	3	2	2	0	0	3	3	3	2	0	0	0	0	3	3	3	3	2	2	3	3	3	3	1	2	0	0	0	0	2	3	0			
People decide how to manage time on a daily basis	1	1	1	1	1	1	1	3	1	3	3	3	3	3	2	0	0	3	3	3	2	2	0	0	2	2	2	0	0	0	3	3	0	3	3	2	2	3	1	2	1	0	2	2		
People decide how to organize schedule on a daily basis	1	1	1	1	1	1	1	1	3	3	2	3	3	2	1	0	2	3	3	3	2	0	0	0	3	3	3	1	1	1	1	3	2	2	3	3	3	1	1	0	0	0	2	2		
Decisions are made through pros/cons list	0	2	1	1	1	2	3	3	3	1	1	1	1	1	1	1	1	1	2	2	1	3	0	0	3	3	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	2	2	0		
Decisions are made through research	0	2	1	2	0	0	1	0	3	2	1	3	1	1	1	1	1	1	2	1	0	3	0	0	0	2	0	0	0	0	0	0	0	1	1	1	2	2	2	2	0	1	2			
Decisions are made through family advice	2	2	2	3	1	1	0	2	1	3	1	1	3	1	1	1	1	1	3	1	0	1	0	0	2	1	0	0	0	0	0	0	0	0	1	0	2	2	2	2	2	0	1	2		
Decisions are made through friends' opinions	3	3	3	3	3	3	3	3	3	1	1	1	3	1	1	1	1	1	3	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	2	3	1	1	1	1	2	1			
Decisions are made through panic until forced to make decisions	3	3	2	1	2	0	0	2	0	1	1	1	1	1	1	1	1	1	1	1	0	2	0	0	1	3	3	0	2	2	0	1	0	0	1	2	3	1	1	1	1	0	2	1		
Decisions are made through random selection from list of options	3	2	3	3	3	0	0	2	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	3	3	0	2	2	0	0	0	2	2	0	0	0	0	0	0	0	0	0		
Decisions are made through praying to Allah	0	0	1	0	0	0	0	2	0	0	1	1	1	1	1	1	1	3	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	3	0			
Decisions are made through listing alternative choices	2	3	2	3	3	1	2	3	3	2	1	1	1	1	1	1	1	2	2	3	3	0	0	0	0	3	3	0	2	0	1	1	3	3	2	2	3	2	2	2	0	1	1			
Advice from others would help make better decisions	2	2	2	3	2	2	2	3	3	2	1	2	3	3	1	0	1	2	3	3	3	3	0	0	1	1	3	3	2	1	1	1	0	0	2	2	3	3	2	3	3	2	2	3		
Results/consequences would help make better decisions	0	0	2	0	0	3	3	3	3	3	2	1	1	1	0	0	2	2	3	3	3	3	0	0	2	3	3	2	0	1	1	1	3	3	3	3	1	2	2	2	2	0	2	2		
Confidence would help make better decisions	3	0	1	0	3	1	3	2	2	3	1	0	0	1	0	1	0	3	3	3	3	3	0	0	1	1	2	2	1	1	1	0	1	0	0	1	1	2	2	2	2	3	1	3		
More information and research would help make better decisions	0	1	2	2	1	2	3	0	2	3	3	3	1	2	2	0	1	3	3	3	3	3	2	0	1	3	3	3	2	1	3	3	1	1	1	0	2	2	2	2	2	1	2	2		
Taking breaks would help make better decisions	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	3	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0			
Distracting yourself would help make better decisions	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	1	3	1	1	1	1	1	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0			
Emotions influence decisions	1	3	3	3	3	3	3	3	2	3	3	0	2	1	3	0	0	3	3	3	2	3	0	0	1	3	3	2	2	1	1	3	2	2	1	1	0	1	1	1	1	1	2	2		
Physical and mental health influence decisions	1	3	3	3	3	3	3	2	3	3	2	1	1	3	0	0	0	3	3	3	2	3	0	0	1	3	3	2	3	1	1	2	3	0	0	0	0	0	2	2	2	2	1	1		
Interior space design influence decisions	1	2	2	3	2	3	3	3	0	1	2	0	0	0	0	0	0	2	2	1	1	0	0	0	0	2	0	3	2	2	1	0	1	1	0	0	0	0	0	1	1	1	0	0	0	
Crowded areas influence decisions	0	2	2	2	2	3	3	0	1	2	0	0	1	2	0	0	0	1	0	1	0	1	0	1	1	1	1	2	3	3	3	1	2	2	1	1	1	0	0	0	0	0	0	0		
High noisy space influence decisions	0	2	1	2	1	0	3	2	0	1	2	0	0	1	2	0	0	2	1	1	1	1	0	0	1	1	1	2	3	3	1	1	2	2	1	0	0	2	0	0	0	0	0	0		
Smell of the place influence decisions	0	2	1	0	2	0	3	2	0	1	2	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	2	3	1	3	2	0	2	0	0	1	0	0	0	0	0	0	0	0		
Weather influence decisions	3	2	3	1	3	2	3	3	3	2	0	0	0	0	2	0	0	1	0	1	0	1	0	0	0	2	2	1	1	1	2	3	3	1	1	1	0	0	3	0	0	2	1	1		
Distance to reach destination influence decisions	0	3	2	0	3	3	0	3	3	2	2	0	0	0	2	0	0	1	0	3	0	2	0	0	1	0	0	2	0	3	3	2	3	2	1	1	1	3	1	0	0	1	1			
Price and cost influence decisions	2	3	3	2	0	2	3	0	2	3	1	1	1	1	2	0	0	3	2	3	3	0	0	0	1	0	1	2	2	2	1	2	3	3	2	2	2	3	3	3	0	0	3	3		
Time constraint influence decisions	3	2	3	3	2	3	1	3	3	2	3	1	0	1	2	0	0	2	3	2	2	2	0	0	1	1	0	1	1	1	0	1	3	3	2	2	3	3	3	3	2	2	0	1	1	
Previous experience with product/service influence decisions	1	3	3	3	2	3	3	3	3	2	1	2	2	2	0	0	0	2	2	3	0	0	0	0	0	0	1	1	0	0	1	0	2	2	3	3	3	3	3	3	3	2	2			
Reviews about product/service influence decisions	2	3	3	3	2	0	3	1	2	3	3	2	2	3	2	0	0	2	3	3	1	3	0	0	1	0	0	1	0	1	0	1	2	2	3	3	3	3	3	3	3	3	2	2	3	
Having many alternative decisions causes confusion	3	3	2	2	3	2	2	2	2	2	3	1	2	1	3	0	1	3	2	1	1	1	1	1	1	1	0	0	0	2	0	1	2	2	3	3	3	3	3	3	3	3	1	3	3	
What to study is an important life decision	0	0	1	0	1	2	0	0	3	1	3	2	2	1	3	0	1	2	3	2	2	2	0	0	1	2	1	0	0	0	1	2	2	2	3	3	3	3	3	3	3	0	0	3		
Where to study is an important life decision	0	0	0	1	2	0	1	1	3	3	2	2	1	2	0	0	1	2	3	2	2	2	0	0	1	2	1	0	0	0	3	3	3	3	3	3	3	3	3	3	0	0	1	3		
What field to work in is an important life decision	0	0	1	0	1	0	2	0	2	0	3	2	2	1	1	0	1	2	3	2	2	2	0	0	1	2	1	0	0	0	0	0	0	0	2	2	3	3	3	3	3	3	2	1	3	
To do a masters program or not is an important life decision	0	0	0	0	1	0	2	0	1	0	3	2	2	1	1	0	1	2	2	2	2	2	0	0	1	2	1	0	0	0	0	0	0	0	3	2	3	3	3	3	3	0	1	3		
Hijab (religious decisions) is an important life decision	2	0	1	0	0	0	2	0	0	2	0	2	0	2	1	0	0	3	0	2	0	3	1	0	0	2	2	0	0	0	0	2	1	0	0	3	2	1	0	0	2	0	3	2	3	
Making decisions that affect others are more important	0</																																													

**BETTER
DECISIONS**

FUTURE

The findings we gained from this tool, were mostly how insights relate to one another in clusters. For instance, we established and defined three clusters that affect college students decision making: future, better decisions, and external influences. We were able to dig deeper and understand each clusters relationship with its insights.

FUTURE

- ▶ Decisions are often based on future goals
- ▶ The most important decision for students is – where to work, where to study
- ▶ Reviews and information about something are important to students
- ▶ Time is a huge factor in making a long-term decision
- ▶ Price and cost influence long-term decisions
- ▶ There is a correlation between the longevity of the decision and the importance of it

BETTER DECISIONS

- ▶ Better decisions are taken when people have:
 1. Alternative choices
 2. Advice
 3. They know the results and consequences
 4. Confidence
 5. More information and research
- ▶ It helps students to make better decisions when information is more achievable.

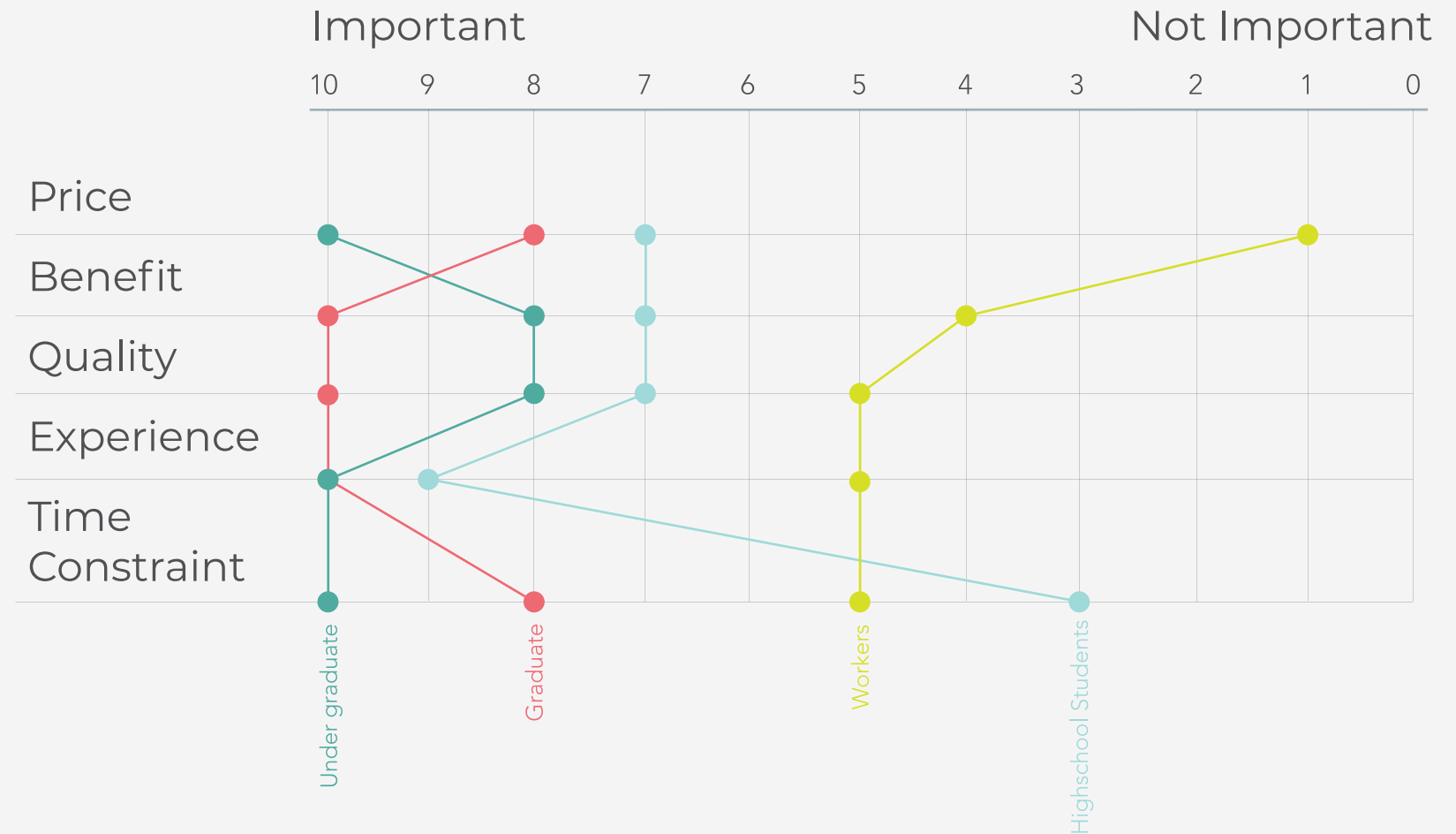
EXTERNAL INFLUENCE

- ▶ Multiple factors influence a decision-making process:
 1. Emotions
 2. Physical & mental health
 3. Interior spaces
 4. Crowded areas
- ▶ There is a correlation between the activities people do on a daily basis and how they make those decisions
- ▶ Emotions play an integral role in the decisions that people make on a daily basis
- ▶ Many daily decisions are influenced by factors that are outside our control

SEMANTIC PROFILE

Semantic Profile is a method that measures people's attitudes about products, services, experience's, concepts, other factors. It uses a set of semantic scales to measure in terms of adjectives, such as "simple" and "complicated," "weak" and "strong," or "important" and "not important (Kumar, 2012, p.175). Through Semantic Profile one can gain information about "how different user groups think and feel about entities" (Kumar, 2012, p.175).

This tool was relevant to us because we wanted to analyze our insights and clusters deeper. So, we established this tool to understand different user group's perspective regarding their difficulty of decision making in college life. We chose to use this tool to get more accurate information about people's attitudes towards our insights factors. First, we put the selected entities in a list and added key attribute scales to it. Then, we linked them to four different user groups and compared their attitudes towards each entity. After that, we gathered insights from the groups and analyzed it based on importance (Kumar, 2012, p.175).



The findings from this insight gave us a deeper understanding of different user groups' attitudes and perspectives towards different factors that decision-making in college life. The user groups were: college students as undergraduate and masters students, non-college students as workers and high school students. These groups' decision-making process was affected by factors or entities as: (1) price of product or service (2) benefit received from that decision (3) quality of

the product or service (4) experience quality from a product or service (5) time constraint you face while making a decision.

These findings helped us discover the core of the problem by tackling each specific factor that affects college students decision-making processes. This approach opened a wider opportunity for innovation and potential solutions in the upcoming modes.



MODE 5

Explore Concepts

WHAT IS THIS MODE ABOUT?

The essence of mode 5 is to identify opportunities and explore concepts. According to Vijay Kumar (2012), “The mindset for Explore Concepts is to be creative and open to new, perhaps radical ideas and ways of thinking; but at the same time, keeping sight of human-centered and context-driven principles for success that were identified in earlier modes” (p.196). Starting with the information obtained from the previous modes, this mode centers around structure brainstorming to recognize promising opportunities and discover new concepts.

WHY IS THIS MODE IMPORTANT AND HOW IS IT RELEVANT TO THE PROJECT?

Exploring concepts is important because it is through this mode that we can come up with fresh and bold ideas, which is an essential result of the design thinking method. By using the information gathered from previous modes and basing our ideas on them, we can ensure that they are defensible and grounded in reality. This mode pushes us towards our solution, and is thus critical to our project. As Kumar (2012) states, “The concept explorer is primarily concerned with challenging prevailing assumptions about where solution concepts will be found; then with reframing the boundaries to a new solution space; exploring ideas most relevant to the insights from earlier modes, yet paying attention to the periphery and the fringes; generating concepts of clear value in that space; and continually communicating those explorations both internally and externally through effective storytelling” (p.196).

Essentially, personas are user personalities related to the envisioned innovation. They are based on abstract representations of numerous people with related characteristics. These are done to further understand the target users and “organize them according to sets of shared attributes” (Kumar, 2012, p.211). Once these personas are created, the innovation is created to revolve around their needs and challenges.

We decided to use this tool because we wanted to understand the students that we would be targeting for our innovation. Through this tool, we empathized with the students, and put ourselves into their shoes. In addition, according to Vijay Kumar (2012), using personas can have many benefits (p.211):

- Broadens mindset
- Builds empathy
- Defines direction
- Facilitates storytelling
- Inspires ideation
- Structures existing knowledge

During our research process, we realized that we wanted to focus on university students' long-term decisions, specifically in regards to academia. We then discovered that students make these decisions primarily in two situations: When they are entering university and have to decide on a major, and when they are graduating from university and have to choose a future path to pursue. Thus, we created two personas, one for each situation. This helped us fully understand that our users face when making these important decisions, delving deeper into aspects such as their needs, frustrations, and motivations.

Personas



QUOTE:

"I just want to choose an easy major so I can focus on playing football well, as that is the field I want to work in in the future. But my parents insist that I choose engineering. I just do not know what to do!" I want to work in in the future. But my parents insist that I choose engineering. I just do not know what to do!" play football, and is not into academia."

DEMOGRAPHICS

Name: Ahmad

Age: 17

Gender: Male

Education: Graduate Highschool

Major: Undecided

Employment: Student

Location: Dubai

PSYCHOGRAPHICS

Trendy / **Sporty** / Social / Adventurous /

Outgoing / Conservative / Introvert /

Extrovert / Humanitarian / Environmentalist /

Energetic / Socially Responsible / **Cautious** /

Dependent on Family

BIO

A fresh graduate from highschool planning on going to university. Ahmad loves to play football, and is not into academia.

NEEDS/FRUSTRATIONS

Needs: To decide a major to pursue in university that he enjoys

Frustrations: Parents' pressure to study engineering

MOTIVATIONS

- Advice from older brother
- Encouragement from coach to pursue sports in university



QUOTE: “Our decisions are what makes us who we are today. Therefore, making the right decision can be hard and long lasting.”

DEMOGRAPHICS

Name: Noora

Age: 22

Gender: Female

Education: Undergraduate Senior

Major: Marketing

Employment: Student

Location: Ajman

PSYCHOGRAPHICS

Trendy / Sporty / Social / Adventurous /
Outgoing / Conservative / Introvert /
Extrovert / Humanitarian / Environmentalist /
Energetic / Socially Responsible / Cautious /
Dependent on Family

BIO

A undergraduate senior, majoring in Marketing. Noora loves keeping up with trends and fashion.

NEEDS/FRUSTRATIONS

Needs: To decide whether to apply for a job or a master's degree after her graduation.

Frustrations: not knowing which decisions will be beneficial in her future.

MOTIVATIONS

- Advice for friends and family
- Self-motivation to work in high paid jobs



The purpose of this tool is to visualize real-life scenarios. The aim is to illustrate how potential users will use the concept in possible situations. This facilitates team discussions and allows the team to recognize problems or needs that might not have come about in the ideation phase. Furthermore, these concept scenarios can be used to communicate the problem with potential investors.

We decided to use this tool because it helped us to visualize the various situations that college situations might face while making important decisions. In addition, these scenarios facilitated discussion about the problem amongst our group and helped us to refine our idea. Finally, through this we began to think about touchpoints that the user interacts with and how those could influence our solution.

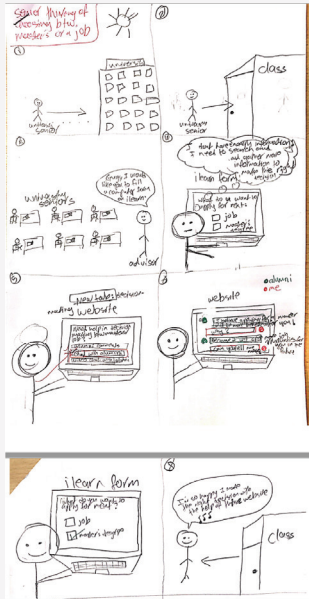
For this tool, we visualized the following scenarios:

- **Senior thinking of choosing between a masters or a job**
- **High School student joining a university and choosing a major**
- **Student deciding whether to stay in the country or leave**
- **Student deciding whether to apply for jobs locally or abroad**
- **Student deciding what college to go to**
- **Graduate student deciding what the right job is for them**

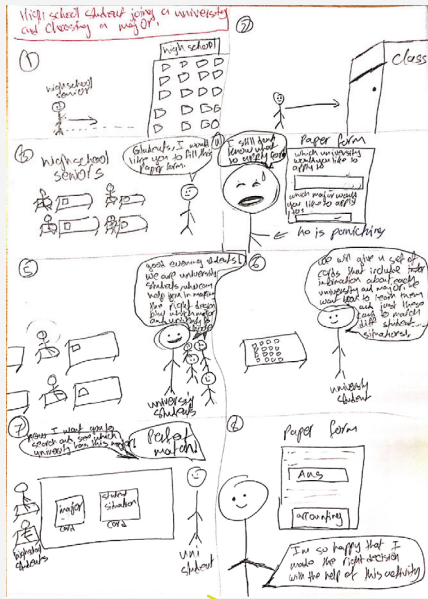
We then decided as a team to further narrow down our problem to just focus on the registration process at AUS. Looking at the relevant concept scenarios, we realized that some of the main touchpoints the students interact with when making major decisions are: catalogs, online website of the university, and pros and cons lists. In addition, we noticed that parents played an important role in the decision as well.

concept scenarios

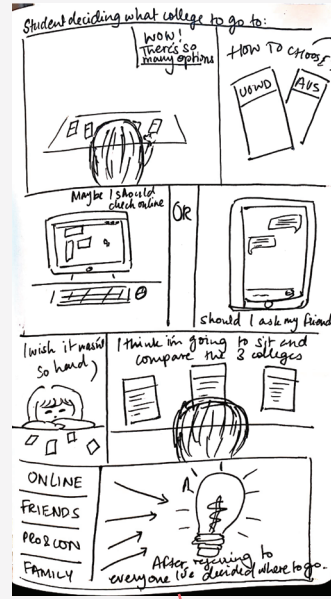
SENIOR THINKING OF CHOOSING BETWEEN A MASTERS OR A JOB



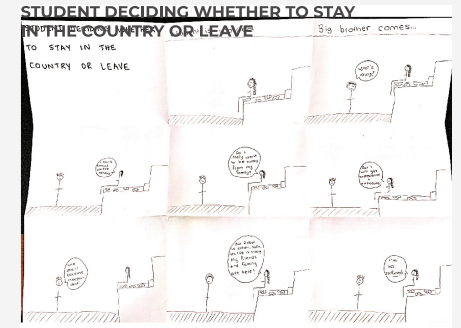
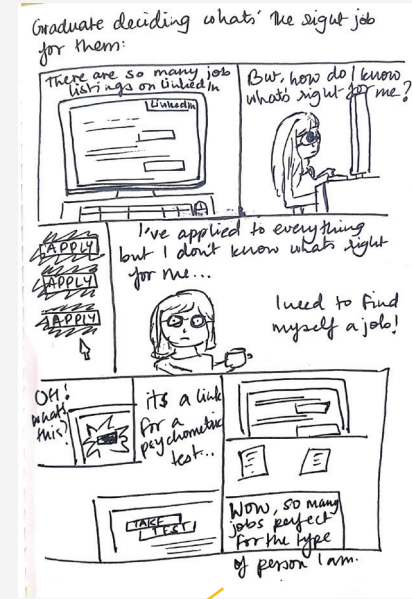
HIGH SCHOOL STUDENT JOINING A UNIVERSITY AND CHOOSING A MAJOR



STUDENT DECIDING WHAT COLLEGE TO GO TO



GRADUATE STUDENT DECIDING WHAT THE RIGHT JOB IS FOR THEM



HIGH SCHOOL STUDENT JOINING A UNIVERSITY AND CHOOSING A MAJOR

OPPORTUNITY MAP

The purpose of this tool is to create “visual depictions of where innovation opportunities may reside” (Kumar, 2012, p.207). The core topic is placed at the center and potential opportunities are explored. This allows the team to understand hierarchies and determine a more narrow area of focus to work with.

We decided to use this tool because although we had narrowed down our topic, we felt like we needed to be more specific with our problem in order to innovate. In addition, this tool was a useful way to structure our knowledge and identify opportunities.

From the opportunity mind map we realized that from the two categories of important university related long-term decisions made by students, we should focus on the one where students are younger and more susceptible to making decisions they will regret later on.

Thus, we decided to focus on new students entering the university and the challenges they face while choosing a major and undergoing the registration process. We then delved deeper into the topic and began to consider all the touchpoints and people that influence and aid in this process. This allowed us to further think about the challenges that students might face interacting with these elements and how we can solve them with our innovation.

**REGISTRATION /
CHOOSING MAJOR**

CATALOG

WEBSITE

ADVISING

PARENTS ADVICE

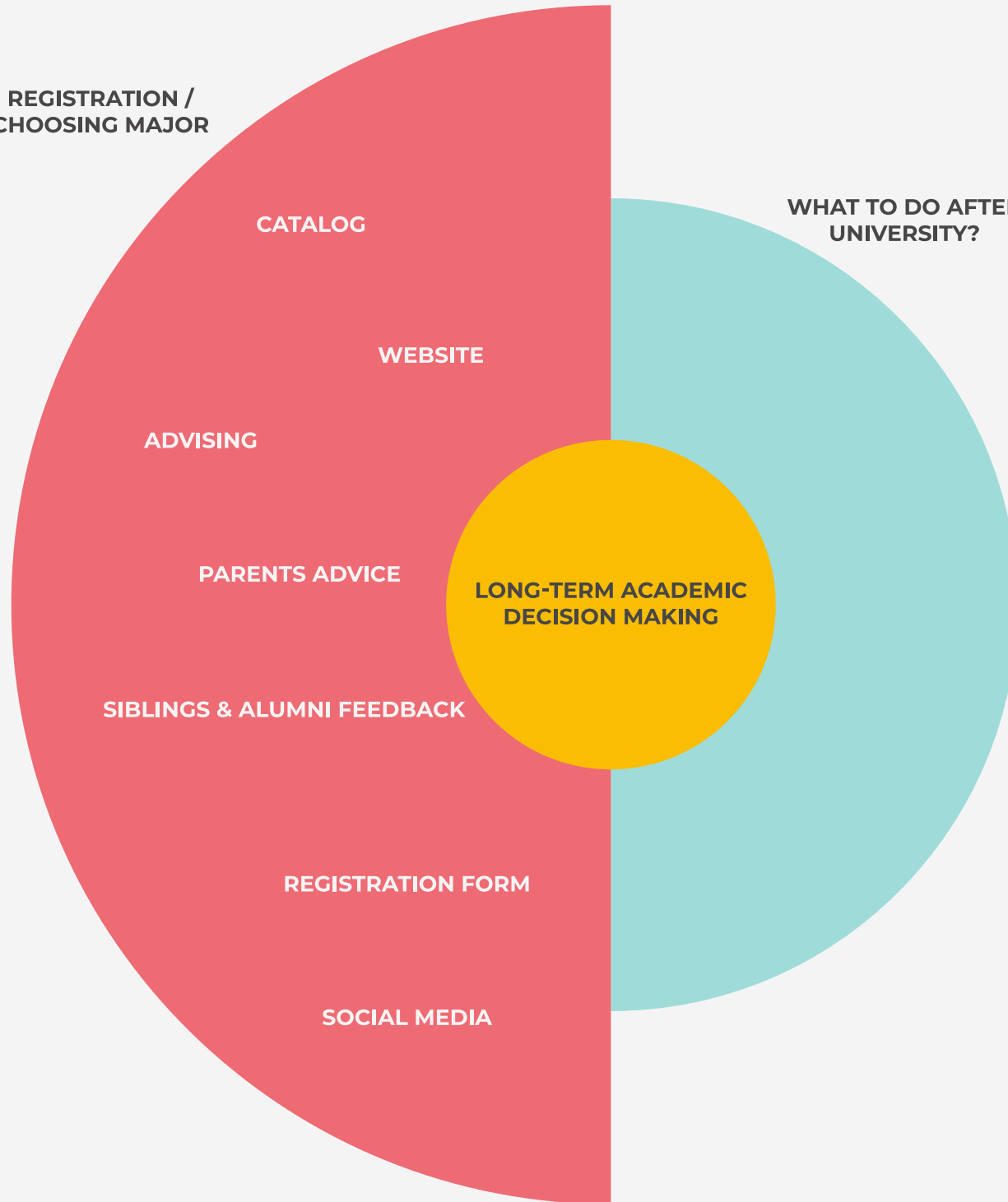
SIBLINGS & ALUMNI FEEDBACK

REGISTRATION FORM

SOCIAL MEDIA

**WHAT TO DO AFTER
UNIVERSITY?**

**LONG-TERM ACADEMIC
DECISION MAKING**



INNOVATION FUNNEL

The innovation funnel is an essential aspect of the product development phase, it allows us to begin with a broad idea and then converge into an opportunity for ideation. This funnel explains the steps taken to in developing an innovative solution to a problem. In the beginning, the aim is to collect as many ideas as possible through research, this is then narrowed down as the funnel becomes thinner.

We decided to use this tool because when we started with our research we had a very broad topic. As we worked through the modes, we began to narrow it down further. By the end of mode 5, we had decided on a specific segment of long-term decisions related to university. This helped us to think of ideas for a solution as we had a specific topic to ideate for.

From this tool we used our research to map out how we planned on narrowing down the problem in order to come up with a specific solution. Initially, we wanted to focus on students' decision-making processes. We then decided to focus on long-term decisions as these had more impact on the students' lives and most had trouble making them. After that we decided to focus on long-term decisions in relation to university and academia only. This was followed by us realizing that we can narrow this down even further and focus solely on new students entering AUS and the problems they faced with the registration process.

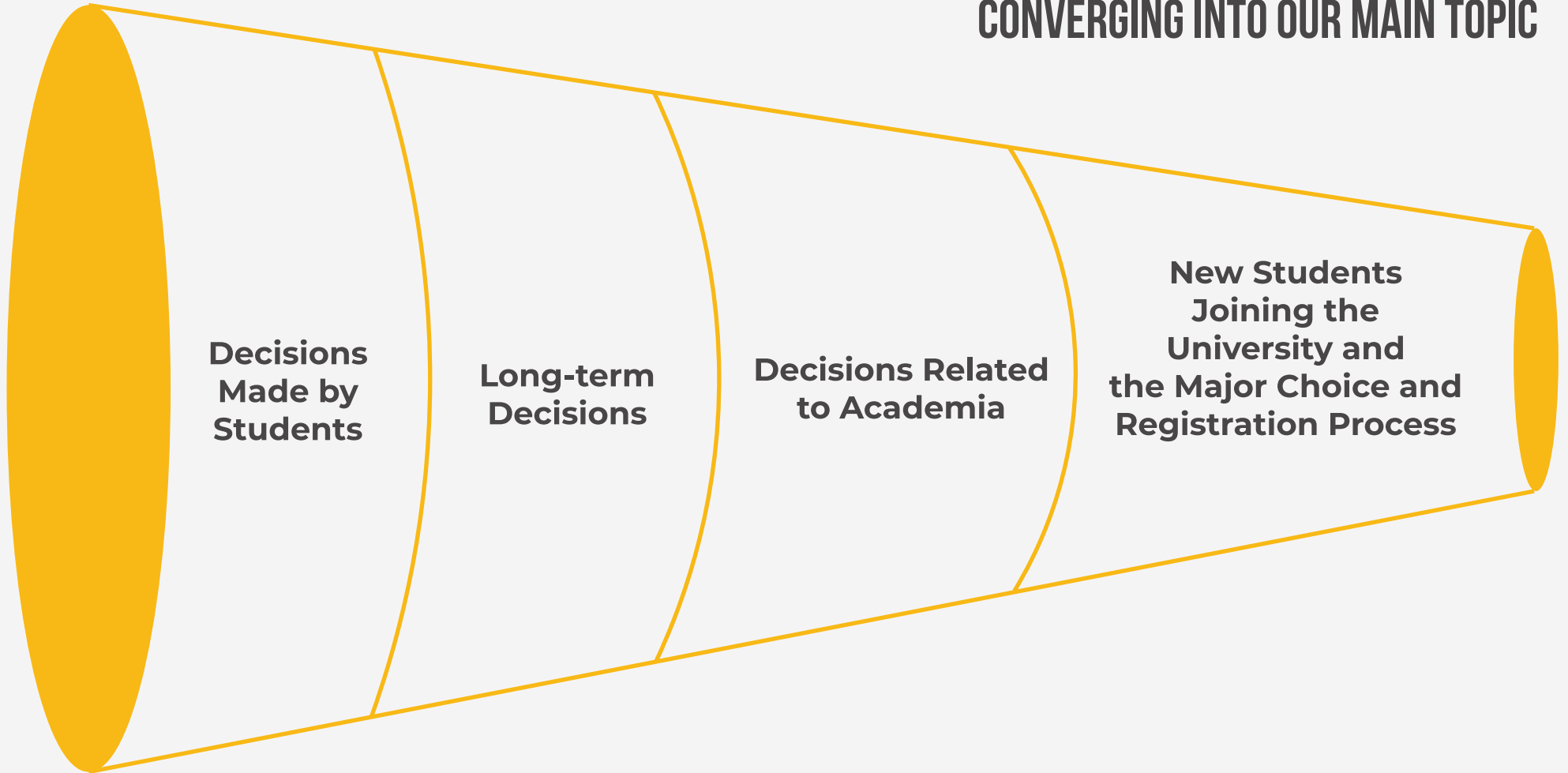
CONVERGING INTO OUR MAIN TOPIC

**Decisions
Made by
Students**

**Long-term
Decisions**

**Decisions Related
to Academia**

**New Students
Joining the
University and
the Major Choice and
Registration Process**





results

Using the knowledge, insights, and concepts gained from the tools used in the previous five modes, we came up with a solution to our problem.

The following section describes in detail how we got to our solution and frames the solution using the causes diagram, prescriptive value web, flow analysis, vision statement, and our prototype.

discussions





MODE 6

Frame Solutions

WHAT IS THIS MODE ABOUT?

This mode requires a careful analysis of the concepts from mode 5 and forming systems between them in order to create a solution. An important aspect of this mode is understanding which concepts bring the most value to stakeholders. In addition, the concepts must also be assessed based on their compatibilities, so as to ensure they form integrated solutions. As Kumar (2012) states, “In short, the Frame Solutions mode is about assessing concepts, combining them, and constructing rationales and stories for why they should be pursued” (p.247).

WHY IS THIS MODE IMPORTANT AND HOW IS IT RELEVANT TO THE PROJECT?

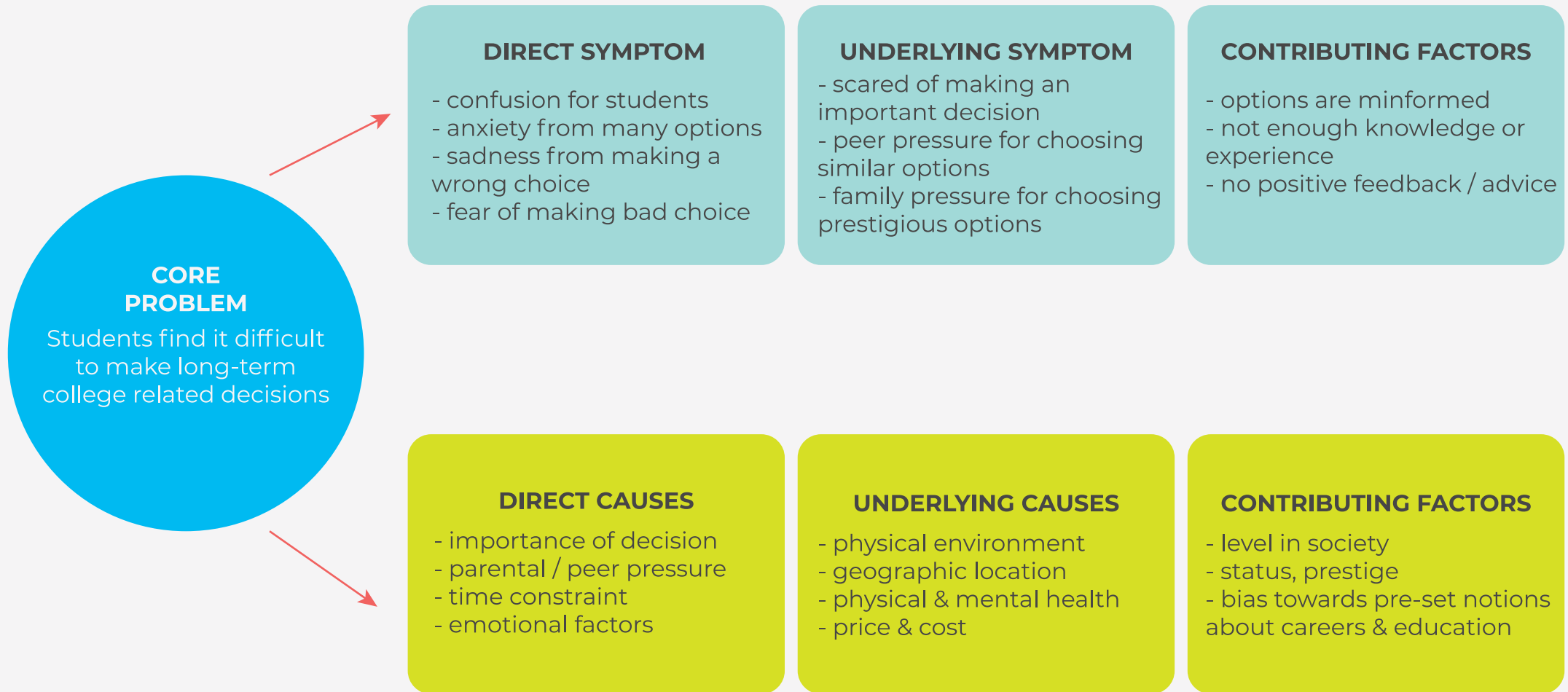
This is one of the most important modes for our design thinking process, as it is in this mode that we begin to start coming up with potential solutions. Through the mindsets defined by Vijay Kumar (conceiving holistic solutions, conceiving options, making value judgements, envisioning scenarios, structuring solutions) we will be able to use all of our research, and find connections in order to create a synergic solution for our problem.

Causes

The aim of the causes diagram is to break down a complex issue to understand what your stakeholders' priorities are. It provides a structured method to analyze a problem in a detailed manner. It allows designers to deconstruct the problem into all the possible causes and symptoms, shining light on more than the apparent ones. In addition, it helps designers understand what kind of solution is needed to solve the problem by distinguishing between the causes and the symptoms (effects).

Diagram

We decided to use this tool to help us understand what kind of solution is needed to help students with their long-term university related decisions. By understanding all the causes and symptoms, we realized that we could pinpoint specific ones to target with our solution. From this tool, we came up with all the potential symptoms and causes for the main problem, "Students find it difficult to make long-term, college related decisions." This helped us to realize that our solution cannot target all of them. We sorted them out into ones that were unchangeable, such as prestige and price, and ones our solution could potentially target, such as confusion and not enough knowledge.



PRESCRIPTIVE VALUE WEB

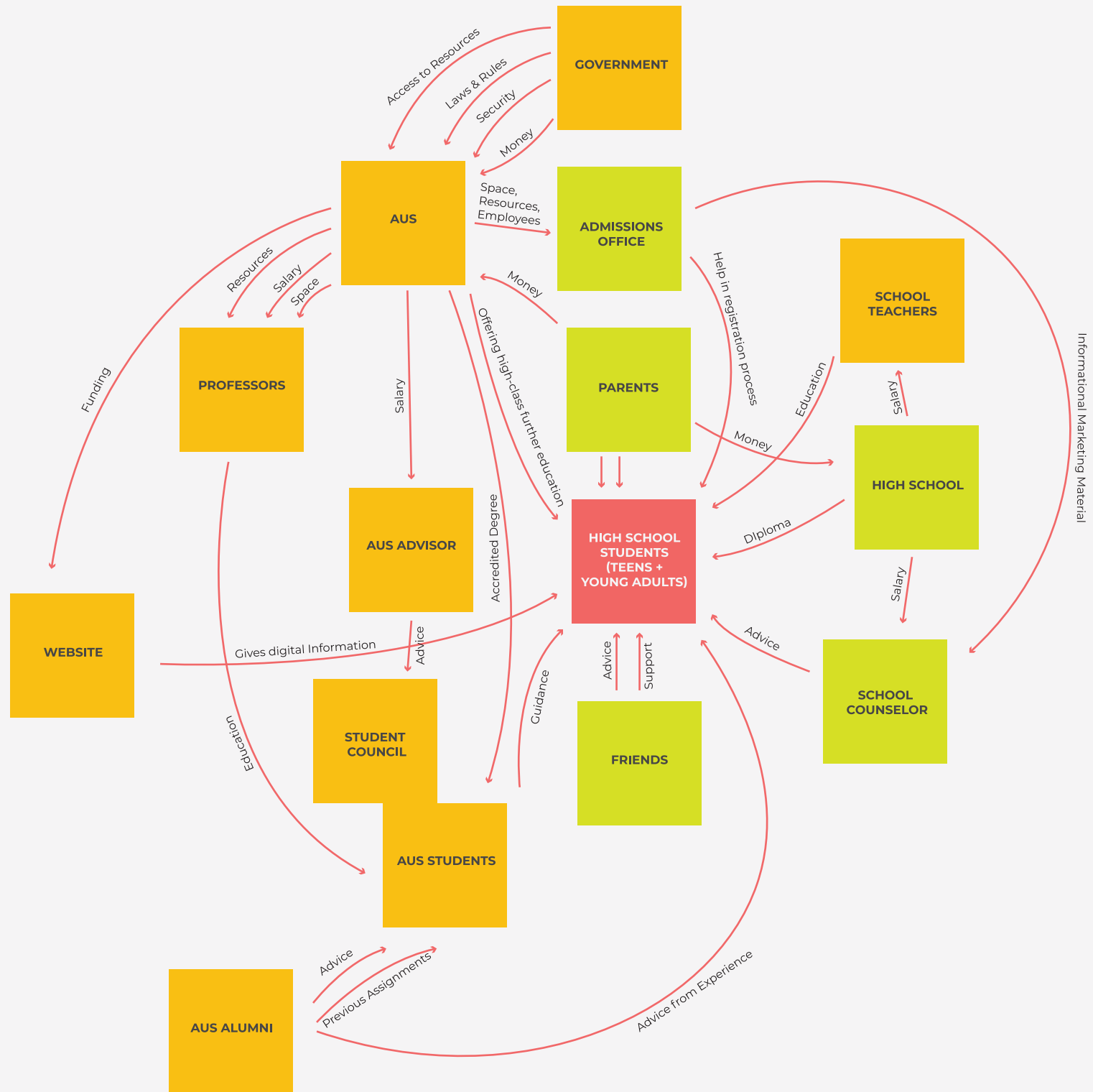
Vijay Kumar (2012) writes, “A Prescriptive Value Web is a network diagram showing all the stakeholders in the system as nodes. The values that are exchanged through the system are shown as links connecting the nodes” (p.261). The purpose of this tool is to show the relationship between stakeholders and the value that flows between them. This value can be both tangible, like money, or intangible.

In mode 3 we created a stakeholder map to understand all the entities involved in our problem, we used this tool to take it one step further. By analyzing all the stakeholders in relation to our core, university students, and understanding the value that flows between all of them, we were able to further understand the kind of potential solution we needed to create.

We realized that the solution needed to help our core, the university students, in the registration process, as well as involve all the other direct stakeholders who had an impact. Our solution needed to also consider stakeholders such as the parents of the students, who pay for the education, and as we realized from our ‘Five Human Factors’ tool, greatly influence long-term decisions made by these students. We also needed to involve the admissions office, as they were the main office that control the registration processes and interact

with the high schools (another direct stakeholder). Finally, we realized that we needed to create something that high school counselors could use to help graduating seniors make decisions about their major choice and ease the process of registration, something tangible that could be shared to them from the admissions office at AUS.

Thus, began the brainstorming phase, where we realized that the main touchpoint in the registration process was the AUS catalog, along with the website. The catalog is used by the admissions office to inform new and potential students about all the majors, courses, and other information in regard to the university. We needed to find a way to make the AUS catalog easier to read and link it with the AUS website, a domain many interested students go to. Which led us to using the next tool, flow analysis, to further explore this idea.



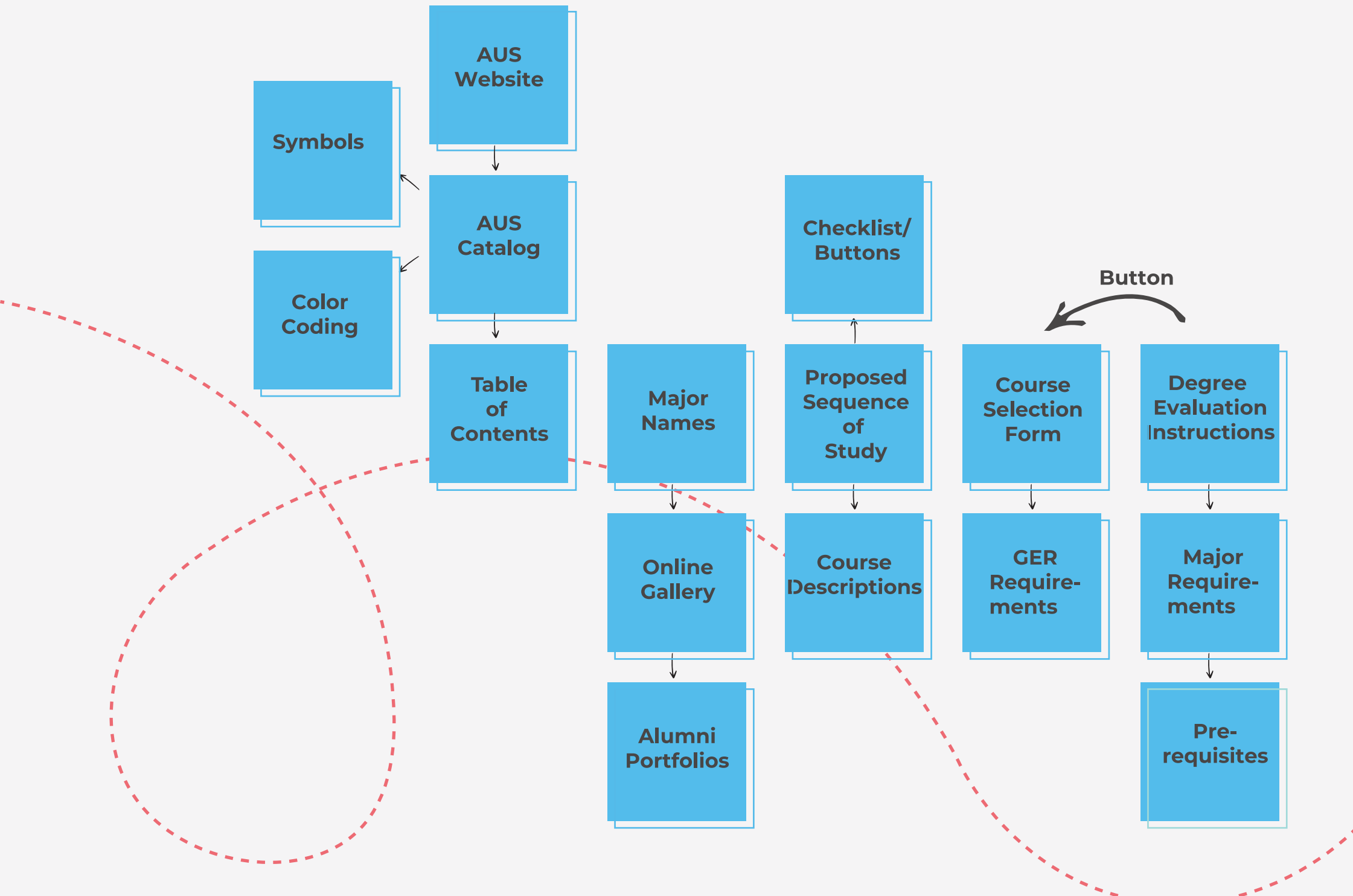
The purpose of the flow analysis tool is to display the steps of a process and how the information flows between them. This is done as a way to visualize how a prototype works in order to recognize any gaps in the system.

This system was relevant for our solution because we wanted to find a way to link the AUS catalog to the AUS website as well as create links within the catalog itself. The flow analysis was essential to understand how the different areas that we wanted to target would be linked and to ensure that there were no gaps in the system. We used post-its and moved them around until we reached a system that made sense and was connected.

From this tool we were able to map out our whole prototype, understand all the components and changes that we wanted to make, as well as ensure that there were no gaps and that everything was connected. We found a way to connect the three main touchpoints: the AUS catalog, AUS website, and course registration form. In addition, we added other smaller changes that would enhance the system to make it more user-friendly, such as color coding, checklists, and symbols.

FLOW ANALYSIS

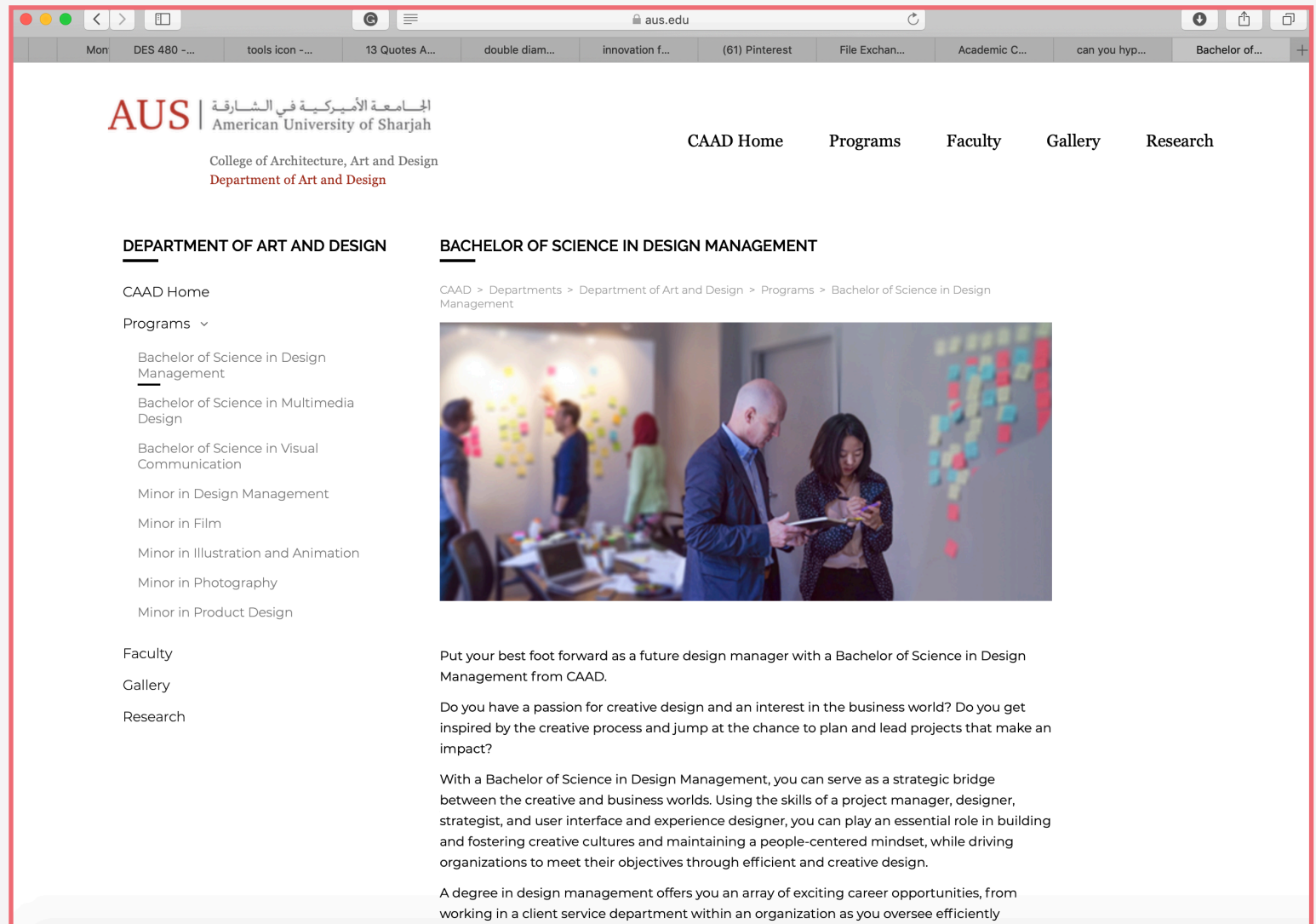




SOLUTION

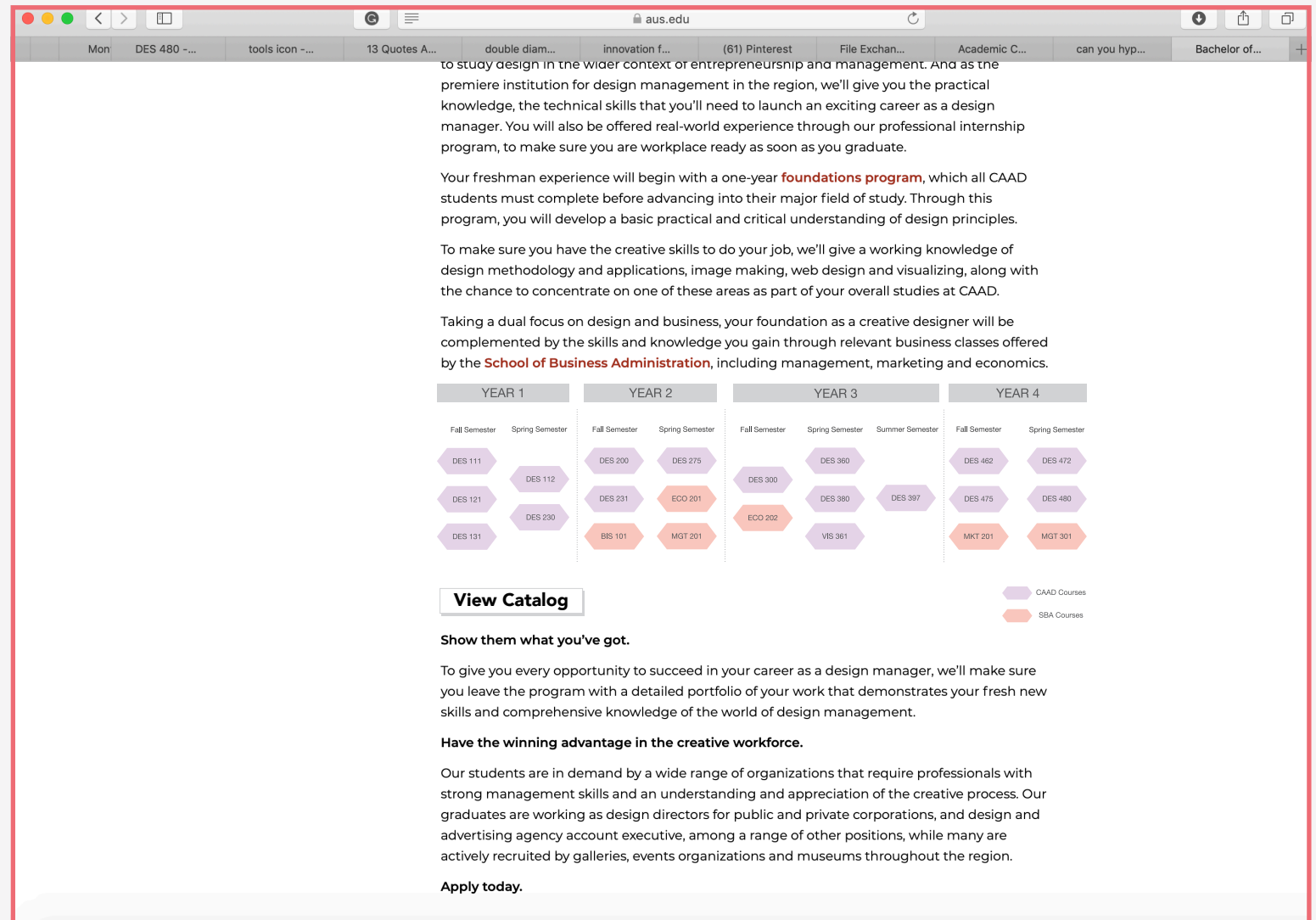
A white dashed line that forms a gentle wave pattern across the middle of the image, passing behind the word 'SOLUTION'.

THE AUS WEBSITE



This is the page that opens up when a user goes to the program page of the Bachelor of Science in Design Management Degree.

THE AUS WEBSITE



We recommended updating the page to add a simple interactive diagram where students can learn the variety of courses the major has to offer. To learn more about these courses, the user can click on the "View Catalog" button and be automatically redirected to the catalog.

THE AUS CATALOG

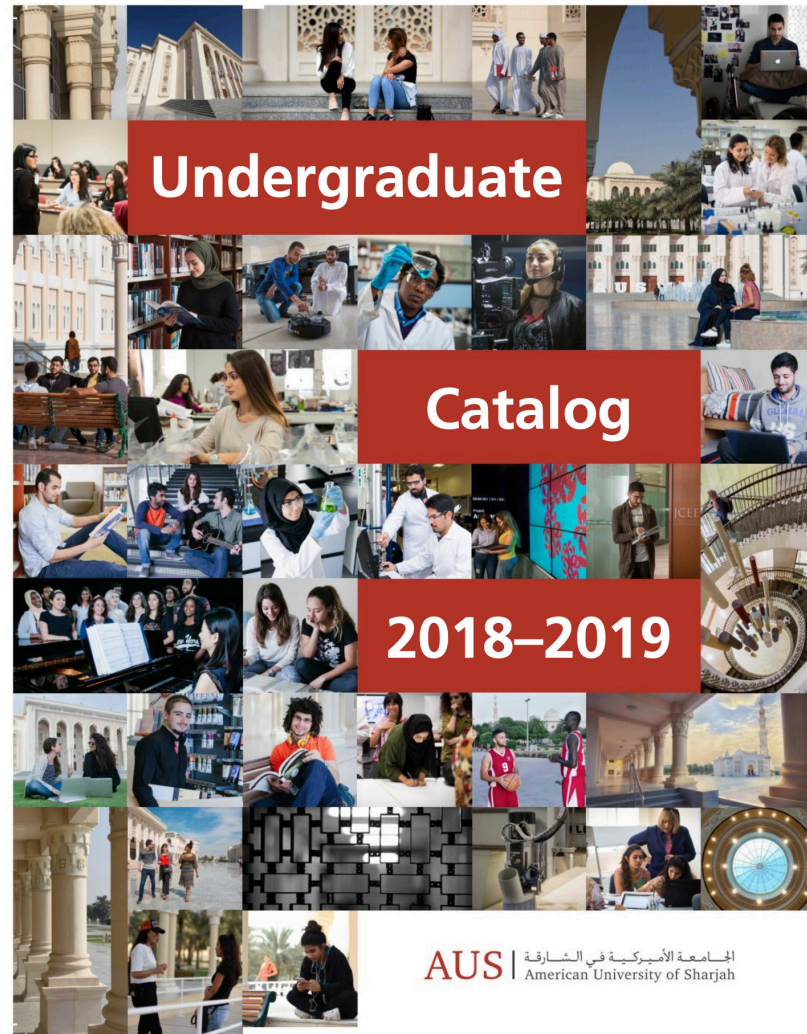


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Undergraduate Catalog 2018-2019

American University of Sharjah

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The button would bring them to the AUS Interactive Catalog. They can navigate through this catalog just like any other ebook. But to make the experience more appealing and user-friendly, we have also recommended some solutions for the catalog itself. For example, hyperlinking all the categories in the "Table of Contents" so users can go to any section with a simple click.

the cumulative earned hours and may apply towards meeting graduation requirements.

A maximum total of 30 credits may be transferred from institutions where the medium of instruction is not English.

A maximum of six online credits can be approved for transfer throughout the student's undergraduate studies at AUS.

At least 50 percent of the required credits for a degree must be successfully completed in residence at AUS.

For further information on studying abroad, please contact the International Exchange Office at ixo@aus.edu.

Summer Courses outside AUS

Requirements

An enrolled student is eligible to apply to take courses at another college/university during the summer with the aim of transferring credits to AUS provided the following conditions are met:

- The student must be in good academic standing at AUS at the time that the application is reviewed.
- The summer courses at the host institution must not be taken as attempts to repeat AUS courses.
- The host institution must be located outside the UAE.
- The host institution must be recognized by the UAE Ministry of Education's Higher Education Affairs Division. Students applying to take online courses must ensure that the host university is also approved for e-learning.
- The host institution must provide learning experiences similar to those offered by AUS.
- Contact hours for courses at the host institution must be equivalent to or greater than the contact hours required for equivalent courses at AUS.
- The summer term at the host institution must not begin prior to the end of the spring semester examination period at AUS.
- The summer term at the host institution must end before the first day of classes of the fall semester at AUS.
- The language of instruction of the course(s) taken at the host university must be English, except for foreign language courses conducted in other languages. Approved foreign-language courses may be transferred as free electives. Certified translations of syllabi or other relevant material may be required.

- With the consent of the relevant associate dean, a student may take course(s) at colleges and universities recognized by the United States Department of Education's regional accreditation authorities and the UAE Ministry of Education's Higher Education Affairs Division, or at an official AUS exchange partner college/university, that are taught in languages other than English. Such courses must be determined to be equivalent in content to AUS courses or approved to meet specific degree requirements (e.g., major electives, free electives, etc.). Certified translations of syllabi or other relevant material may be required.
- Course prerequisites must be met prior to starting the course at the host institution.
- Courses related to areas taught within the School of Business Administration will be evaluated for transfer of credits only if completed within institutions that are AACSB accredited or at universities approved by the School of Business Administration.
- Engineering and computer science courses will only be transferred from academic programs recognized by ABET, Inc.
- Graduation residence requirements must be met. For details, see Graduation Residence Requirements under Graduation/Graduation Requirements later in this section.

Amount of Credits

- Students may normally transfer no more than two courses for a maximum of seven credits for a six-week summer term conducted at a host institution.
- For summer terms of a different duration, AUS normally allows no more than the equivalent credits of the six-week summer term at AUS.
- Students may register for more than one summer term between spring and fall semesters with approval of the relevant associate dean(s). Students may not be concurrently registered in more than one summer term.
- A college/school may place further restrictions on the allowable maximum number of credits. Students must consult with the relevant associate dean(s) when planning for summer courses outside AUS.

Application Process

Prior to registering for courses at the host institution, students must complete the Summer Permission to Take Courses Outside AUS form available at www.aus.edu/registration/forms and submit it to the Office of the Registrar. Forms must be submitted by the end of

the 14th week of the preceding spring semester. Credits will not be awarded if the completed form is not submitted to the Office of the Registrar by the end of the 14th week of the spring semester.

Students applying to take online courses as summer courses outside AUS must clearly identify the online courses on the Summer Permission to Take Courses Outside AUS form and provide detailed syllabi of these courses.



Registration

AUS students taking courses outside AUS in the summer are not eligible to be enrolled for any type of course work at AUS for the overlapping AUS summer term.

Students taking online courses in addition to regular courses must be registered for all courses with the same host institution.

Transfer of Credits

Credits earned in summer courses taken outside AUS will transfer provided the following conditions are met:

- Upon completion of the course(s), and before the end of the following fall semester, the student submits to the Office of the Registrar an official transcript from the host institution demonstrating that the student met the minimum course passing grade requirement, as indicated on the permission form.
- The student was in good academic standing at AUS at the time summer courses are taken at the host institution.
- The student had passed the course prerequisites prior to starting the course at the host institution.
- Grades earned in summer courses completed outside AUS do not count in the student's cumulative GPA (CGPA). Credits of transferred courses count in the cumulative earned hours and may apply towards meeting graduation requirements.

A maximum total of 30 credits may be transferred from universities where the medium of instruction is not English. A maximum of six online credits can be approved for transfer throughout the student's undergraduate studies at AUS.

At least 50 percent of the required credits for a degree must be

successfully completed in residence at AUS. For further information related to transfer of credits, please contact the Office of the Registrar.



Attendance, Withdrawal and Interruption of Studies

Attendance and Lateness

Attendance and participation in all class, studio, recitation, workshop and laboratory sessions are essential to the process of education at AUS. Students benefit from the lectures and discussions with their instructors and fellow students. For this reason, students are expected to attend class regularly. Lateness or absence hinders progress for the individual and the class and affects the student's grade.

University guidelines for lateness and attendance are as follows:

- Three occasions of lateness count as one absence. Lateness is defined by the individual instructor.
- In the event a student misses 15 percent of the total number of scheduled sessions in a class for any reason, the instructor may initiate withdrawal of the student from the course if a written warning or formal notification was issued when the number of absences reached 10 percent. Students are expected to manage course attendance to ensure that absences due to personal reasons or participation in extracurricular events do not exceed the 15 percent limit. Students who are absent as a result of participation in a university-sanctioned extracurricular event approved by the Office of the Provost must notify the instructors at least two weeks in advance of the event-related absence and, if the requirements of the course allow, instructors are expected to make reasonable accommodations that may include make-up exams or the submission of assignments prior to an absence.
- Stricter attendance requirements may be approved by the relevant dean (or appointed designee) for courses that depend upon student contributions to complete collaborative team-based projects or to prepare for public performances.
- Instructors must specify attendance requirements in the course syllabus. If the syllabus states that missing 15

percent of class sessions will result in withdrawal, then attendance records must be maintained.

- If withdrawal occurs prior to the end of the fourth week of classes (end of the fourth week of classes for a six-week summer term), a grade of W is assigned to the student for the specific course. Beyond the 10th week of classes and up to the end of the 13th week of classes, a grade of WF will be assigned.
- The specific application of the attendance guidelines is at the instructor's discretion.

Students are fully responsible for dropping or withdrawing from courses that they are not attending. Students who register for a course and do not attend may be administratively withdrawn, which will render them ineligible for a tuition refund or adjustment and result in the application of a no-show penalty fee.

Course Withdrawal

Students may withdraw from courses without grade penalty by submitting the Withdrawal Form (available at www.aus.edu/registration/forms). The student must submit the form in person to the Office of the Registrar.

Withdrawal from courses must occur no later than the end of the 10th week of classes (end of the fourth week of classes for a six-week summer term). A grade of W will be recorded on the transcript for the course from which the student has withdrawn. A W grade does not impact the student's GPA. The semester/term tuition is not recalculated following course withdrawal.

As of the 11th week of classes and up to the end of the 13th week of classes, a grade of WF will be recorded for those who withdraw from a course. The student will receive 0.00 grade points (F grade) for the WF, and this will be used in calculating the student's GPA. Students are not eligible to withdraw from courses past the 13th week of classes.

If a student with a documented medical condition (e.g., operation, hospital stay, serious illness, etc.) is withdrawn from a course after the established withdrawal deadline, the student may submit a Student Petition Form (available at www.aus.edu/registration/forms) to the Office of the Registrar with the appropriate original medical documents. The Office of the Registrar will verify the claims and approve the change of status from a WF to a W.

Students are expected to maintain a minimum load of 12 credits per semester. Students on AUS financial grants/scholarships must maintain the

minimum registration load specified by their grant/scholarship. For more details, refer to the Tuition, Grants and Scholarships/Grants and Scholarships section.

Students are fully responsible for dropping or withdrawing from courses that they are not attending. Students who register for a course and do not attend may be administratively withdrawn, which will render them ineligible for a tuition refund or adjustment and result in the application of a no-show penalty fee.



Withdrawal from the University

Students seeking to withdraw from the university must submit the Complete Withdrawal Form (available at www.aus.edu/registration/forms) to the Office of the Registrar. The student must submit the form in person.

If complete withdrawal occurs during the add and drop period, the courses are dropped and are not recorded in the student's transcript. If withdrawal occurs prior to the end of the 10th week of classes (end of the fourth week of classes for a six-week summer term), a grade of W is assigned to the student for the specific course. In addition, the refund schedule outlined in the table below will apply.

Withdrawal from the University*

Before the end of the first week of classes
100% refund excluding non-refundable deposits
During the second week of classes
50% refund of tuition
During the third week of classes
25% refund of tuition
After the third week of classes
0% refund

Beyond the 10th week of classes (beyond the fourth week of classes for a six-week summer term), a grade of WF will be assigned.

Students are fully responsible for dropping or withdrawing from courses that they are not attending prior to withdrawal from the university. Students who do not drop or withdraw from courses may be administratively withdrawn, which will render them ineligible for a tuition refund or

To improve the readability and visual appeal of the catalog, we also wanted to create alterations in places where the pages were too text heavy. By adding iconography and simple alterations by increasing white space, it automatically makes the catalog less daunting and more readable.

Proposed Sequence of Study Bachelor of Interior Design (BID)

FIRST YEAR (30 credits)			
Term	Course #	Course Title	Credit
Fall	DES 111	Descriptive Drawing I	3
	DES 121	Introduction to Architecture, Art and Design History	3
	DES 131	Design Foundations I	3
	MTH 111 or MTH 103	Mathematics for Architects or Calculus I	3
	WRI 101	Academic Writing I	3
	Total		15
Spring	DES 112	Descriptive Drawing II	3
	DES 122	Modern Developments in Architecture, Art and Design	3
	DES 132	Design Foundations II	3
	WRI 102	Academic Writing II	3
	GER-Core	History and Culture of the Arab World	3
	Total		15
SECOND YEAR (36 credits)			
Term	Course #	Course Title	Credit
Fall	IDE 201	Interior Design Studio I	6
	IDE 251	Color and Light	3
	ARC 281	Architectural Principles	3
	ENG 203 or ENG 204	Writing about Literature or Advanced Academic Writing	3
	PHY 104	Physics for Architects	3
	Total		18
Spring	IDE 202	Interior Design Studio II	6
	IDE 225	History and Theory of Interior Design: Global and Regional Issues	3
	IDE 239	Interior Materials and Methods	3
	GER-COM	Communication	3
	GER-Core	Culture in a Critical Perspective	3
	Total		18

THIRD YEAR (33 credits)			
Term	Course #	Course Title	Credit
Fall	IDE 301	Interior Design Studio III	6
	IDE 352	Environmental Control Systems in Interior Design	3
	GER-Core	Arts and Literature	3
	FRE	Free Elective	3
	Total		15
Spring	IDE 302	Interior Design Studio IV	6
	IDE 334	Furniture and Furnishings	3
	GER-Core	Human Interaction and Behavior	3
	GER-Core	Human Interaction and Behavior	3
	FRE	Free Elective	3
	Total		18
Summer	IDE 397	Internship in Interior Design	0
FOURTH YEAR (30 credits)			
Term	Course #	Course Title	Credit
Fall	IDE 401	Interior Design Studio V	6
	IDE 434	Construction, Detailing and Structures	3
	IDE 491 or FRE	Final Project Research or Free Elective	3
	GER-STA	Statistics	3
	Total		15
Spring	IDE 402 or IDE 492	Interior Design Studio VI or Final Project Design	6
	IDE 463	Professional Practice	3
	GER-SCI	Natural Sciences	3
	GER-Core	Course Selected from General Education Core Requirements	3
	Total		15

Department of Art and Design

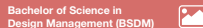
Zlatan Filipović, Interim Head

Faculty

Kevin Badni
Rebecca Beamer
Zinka Bejtic
Kathryn Best
Johannes Martin Giesen
Frederic Gmeiner
Riem Ibrahim
Ahmet Gökhan Numanoglu
Philip Shell
Seth Thompson

Mission Statement

The Department of Art and Design aims to cultivate critical thinking and learning through the study of design as a practice relevant to visual culture and communication.

 Bachelor of Science in Design Management (BSDM)

The Bachelor of Science in Design Management (BSDM) provides students with the opportunity to engage in a design-based program with

entrepreneurial and communication components. Design management as a discipline integrates visual design and business studies. This major is especially well suited to students who have a keen interest in the managerial aspects of design. The essential elements of this profession are the ability to communicate design needs, track progress and outcomes, identify the requirements of design projects and coordinate with clients as well as with professional teams in the field of design.

The program provides broad insights into the foundations, theory and application of design and business studies. A solid foundation in visual design prepares students to understand the language and complexities involved in the efforts of the creative teams, as well as to speak fluently the "language" of design. Additionally, course work in the disciplines of business, management and communication prepares students to recruit clients; pitch projects; write copy for print, television and radio; and master systems and marketing skills.

Typical target professional positions in the fast growing field of design management include administrative and managerial careers in media and service

industries as advertising agency principals, project managers and team leaders, advertising campaign planners, client services specialists, advertising buyers, account and sales representatives, communications specialists, public relations professionals, exhibition and event planners, material culture administrators, market research analysts and more.

Program Goals

The Bachelor of Science in Design Management program aims to:

- provide students with appropriate management skills and knowledge for leadership within team-oriented design disciplines
- provide students with the knowledge and skills required for critically analyzing and solving design problems using specific applications to respond to a variety of audiences and contexts
- provide students with the opportunities to explore how forms of communication are influenced by ethical considerations, self-expression and professional demands

Program Outcomes

Upon completion of the Bachelor of Science in Design Management program, graduates will be able to:

- communicate effectively both orally and in writing
- integrate analytical, technical and critical skills necessary to succeed in the contemporary world of entrepreneurial design
- demonstrate knowledge of how the management and allocation of appropriate resources will sustain a design practice
- demonstrate the skills necessary to work with interdisciplinary teams and clients to design and implement projects
- organize, plan, direct, communicate and distribute information using traditional and digital media systems
- demonstrate knowledge of management, communication and information theories
- analyze and describe the technical, formal and conceptual aspects of communication within the design process
- apply theories of design and management
- interpret principles of management and marketing in order to explain regional and global markets
- employ traditional and digital systems and media in the process of design and management projects
- demonstrate an understanding of the complex demands of design, business, labor and law
- demonstrate an understanding of ethical, social and cultural significance of design
- demonstrate an understanding of sustainable business models that are professionally and socially equitable
- explain how design projects for the media and service industries are initiated and evaluated

Degree Requirements

To qualify for graduation with a BSDM degree, students must successfully complete the following minimum requirements:

- a minimum of 120 credits, including a minimum of 36 credits in courses at the 300 level or above, as follows:
 - a minimum of 42 credits of general education requirements
 - 60 credits of major requirements
 - a minimum of 12 credits of major electives
 - a minimum of six credits of free electives
 - five weeks of an approved internship

- a minimum CGPA of 2.00

Graduation residence requirements must be met. For details, refer to Graduation Requirements in the Academic Policies and Regulations section earlier in this catalog.

General Education Requirements (minimum of 42 credits)

Students in the BSDM degree program must successfully complete the following general education requirements:

- a minimum of 18 credits in courses meeting the core general education requirements:
 - history and culture of the Arab world requirement: three to six credits
 - culture in a critical perspective requirement: three to six credits
 - arts and literature requirement: three to six credits
 - human interaction and behavior requirement: six to nine credits
- natural sciences requirement: a minimum of six credits in courses meeting this requirement
- mathematics requirement: MTH 101 or a minimum of three credits in any MTH course at the 100 level or above meeting this requirement
- statistics requirement: STA 202 or QBA 201
- communication requirement: a minimum of 12 credits in 100-level writing (WRI) courses and/or 200-level or above English (ENG) courses meeting this requirement, including ENG 203 or ENG 204, and ENG 225
- ethical understanding requirement: satisfied through DES 462
- discipline-specific writing intensive course requirement: satisfied through DES 231
- oral proficiency requirement: satisfied through DES 300
- information literacy requirement: satisfied through WRI 102, and ENG 203 or ENG 204
- computer literacy requirement: satisfied through DES 230

For complete information on general education requirements, please refer to the Graduation Requirements section within the Academic Policies and Regulations section of this catalog.

Major Requirements (60 credits)

The following courses constitute the major requirements for the BSDM degree program:

- In the College of Architecture, Art and Design (42 credits)*
 - DES 111 Descriptive Drawing I
 - DES 121 Introduction to Architecture, Art and Design History or

- DES 122 Modern Developments in Architecture, Art and Design
- DES 131 Design Foundations I
- DES 200 Communication Design
- DES 230 Digital Media in Communication Design
- DES 231 History of Design
- DES 275 Fundamentals of Design Management
- DES 300 Design Project
- DES 360 Critical Discourse in Design
- DES 380 Innovation and Strategy
- DES 397 Internship in Design Management
- DES 462 Design Management
- DES 475 Service Design
- DES 480 Design Thinking
- VIS 361 The Design Profession

In the School of Business Administration (18 credits)

- BIS 101 Business Information Systems
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- MGT 201 Fundamentals of Management
- MGT 301 Organizational Behavior
- MKT 201 Fundamentals of Marketing

Internship

Internship is a requirement for graduation. Arrangements for the internships are normally made with the students in the spring semester of their third year.

The internship comprises five weeks of full-time work placement (normally 200 hours) at an approved professional company during the summer of the student's third year. A review of the student's internship journal and feedback from the employer are the basis of passing the internship requirement.

For details on internship eligibility and registration, please refer to Internship Registration under Registration and Course Information in the Academic Policies and Regulations section of this catalog.

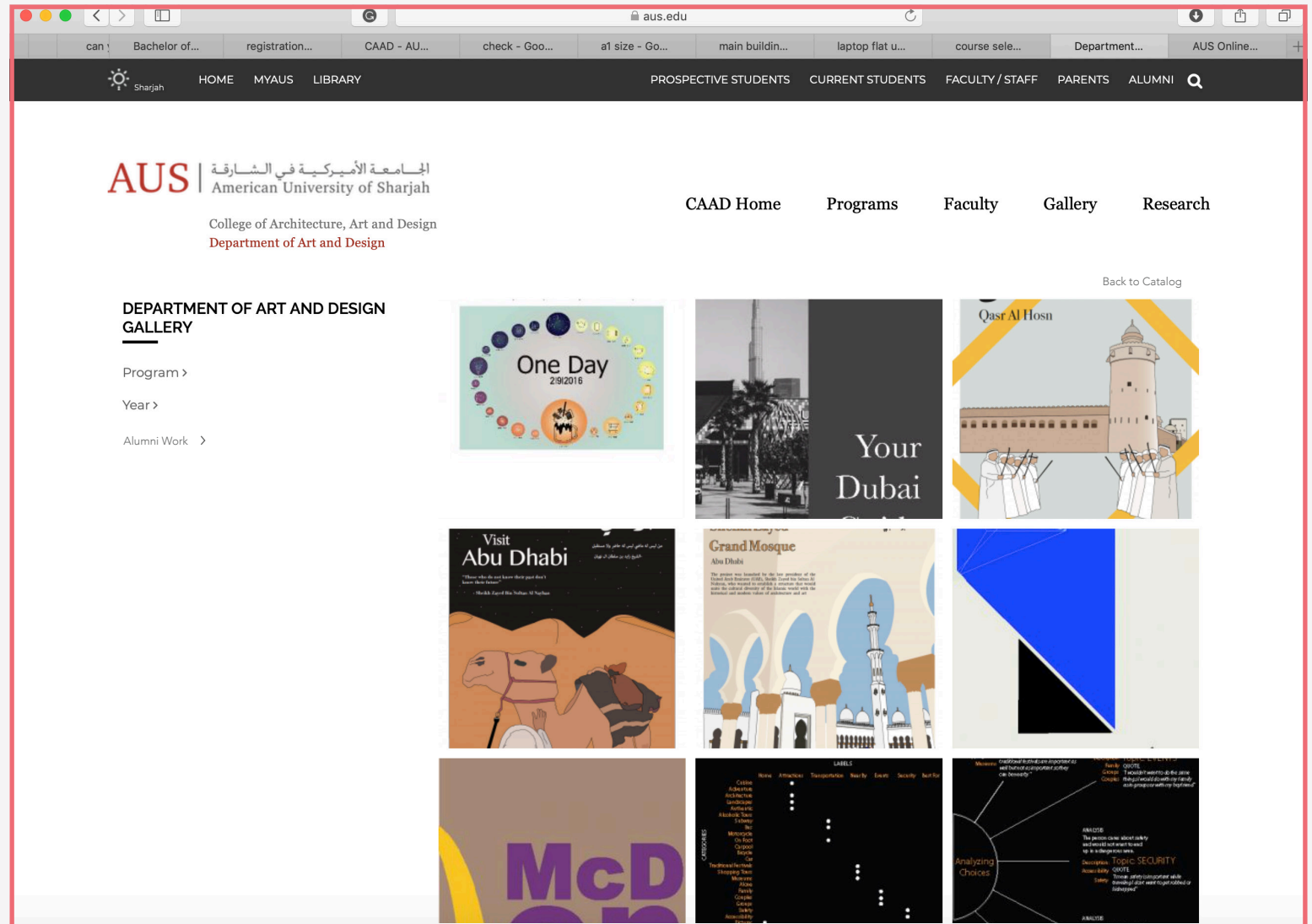
Major Electives (minimum of 12 credits)

Students are required to successfully complete at least three of the four major electives in courses at the 300 level or above. They can choose to take courses from the following:

- ENG 231 Writing for Visual Media
- PSY 101 General Psychology
- PSY 102 Social Psychology
- THE 321 Arts Management

The next thing we wanted to improve was the differentiation between majors. We wanted to implement this by adding color coding to all the majors in the catalog, so students can differentiate easily. Furthermore, we added an image icon next to the majors name where students can view the gallery which includes current and past students works. Lastly, to improve navigation all the courses under degree requirements would be hyperlinked to their course descriptions in the back.

THE AUS CATALOG



This is the page that would open up when you click on the image icon placed next to the name of the major in the catalog. Within this gallery of the department there is also a section to view Alumni Work which we added additionally because we feel that looking at Alumni work would definitely help prospective students.

- any course in CAAD, excluding ART courses
 - any course in SBA, excluding BUS 100
 - any course in mass communication
- Free Electives (minimum of 6 credits)**
- Students must successfully complete a minimum of six credits in free electives.
- Three credits must be in courses at the 300 level or above. Three credits may be in any courses offered at or above the 100 level, excluding MTH 101, MTH 103 and MTH 111.

Proposed Sequence of Study Bachelor of Science in Design Management (BSDM)

FIRST YEAR (30 credits)					THIRD YEAR (30 credits)				
Term	Course #	Course Title	Completed	Credit	Term	Course #	Course Title	Completed	Credit
Fall	DES 111	Descriptive Drawing I	<input checked="" type="checkbox"/>	3	Fall	DES 300	Design Project	<input type="checkbox"/>	3
	DES 121* or MJE	Introduction to Architecture, Art and Design History or Major Elective	<input type="checkbox"/>	3		ECO 202	Principles of Macroeconomics	<input type="checkbox"/>	3
	DES 131	Design Foundations I	<input checked="" type="checkbox"/>	3		MJE	Major Elective	<input type="checkbox"/>	3
	MTH 101**	Mathematics for Business	<input type="checkbox"/>	3		GER-Core	Arts and Literature	<input type="checkbox"/>	3
	WRI 101	Academic Writing I	<input checked="" type="checkbox"/>	3		FRE	Free Elective	<input type="checkbox"/>	3
	Total			15		Total			15
Spring	DES 122* or MJE	Modern Developments in Architecture, Art and Design or Major Elective	<input type="checkbox"/>	3	Spring	DES 360	Critical Discourse in Design	<input type="checkbox"/>	3
	DES 230	Digital Media in Communication Design	<input type="checkbox"/>	3		DES 380	Innovation and Strategy	<input type="checkbox"/>	3
	WRI 102	Academic Writing II	<input type="checkbox"/>	3		MKT 201	Fundamentals of Marketing	<input type="checkbox"/>	3
	GER-Core	History and Culture of the Arab World	<input type="checkbox"/>	3		VIS 361	The Design Profession	<input type="checkbox"/>	3
	GER-SCI	Natural Sciences	<input type="checkbox"/>	3		GER-Core	Human Interaction and Behavior	<input type="checkbox"/>	3
	Total			15		Total			15
* Students must take either DES 121 or DES 122 to meet the major requirements.					Summer	DES 397	Internship in Design Management	<input type="checkbox"/>	0
**Students can take MTH 101 or any other 100-level or above MTH course meeting the GER-MTH requirement.					FOURTH YEAR (30 credits)				
Term	Course #	Course Title	Completed	Credit	Term	Course #	Course Title	Completed	Credit
Fall	BIS 101	Business Information Systems	<input type="checkbox"/>	3	Fall	DES 462	Design Management	<input type="checkbox"/>	3
	DES 200	Communication Design	<input type="checkbox"/>	3		DES 475	Service Design	<input type="checkbox"/>	3
	DES 231	History of Design	<input type="checkbox"/>	3		ENG 225	Writing for Business	<input type="checkbox"/>	3
	ENG 203 or ENG 204	Writing about Literature or Advanced Academic Writing	<input type="checkbox"/>	3		MJE	Major Elective	<input type="checkbox"/>	3
	STA 202 or QBA 201	Introduction to Statistics for Social Sciences or Quantitative Business Analysis	<input type="checkbox"/>	3		GER-Core	Human Interaction and Behavior	<input type="checkbox"/>	3
	Total			15		Total			15
Spring	DES 275	Fundamentals of Design Management	<input type="checkbox"/>	3	Spring	DES 480	Design Thinking	<input type="checkbox"/>	3
	ECO 201	Principles of Microeconomics	<input type="checkbox"/>	3		MGT 301	Organizational Behavior	<input type="checkbox"/>	3
	MGT 201	Fundamentals of Management	<input type="checkbox"/>	3		MJE	Major Elective	<input type="checkbox"/>	3
	GER-Core	Culture in a Critical Perspective	<input type="checkbox"/>	3		GER-Core	Course Selected from General Education Core Requirements	<input type="checkbox"/>	3
	GER-SCI	Natural Sciences	<input type="checkbox"/>	3		FRE	Free Elective	<input type="checkbox"/>	3
	Total			15		Total			15

Bachelor of Science in Multimedia Design (BSMD)

Multimedia design studies span a number of disciplines associated with time-based and interactive media. This major engages students with broad-ranging interests in communications, motion graphics, audiovisual narrative construction and interactive applications.

Potential career options for persons majoring in multimedia design include web design, mobile app design, advertising graphics, animation, computer games design and new media. Multimedia is used in social media, libraries, museums, security systems, TV, publishing houses, schools, retailers, films, games, training and interactive design.

Program Goals

The Bachelor of Science in Multimedia Design program aims to:

- provide students with the knowledge and skills necessary to solve communication problems and competently practice within the multimedia design fields
- introduce students to the knowledge and skills to develop appropriate communicative form across media, dimensions and formats
- provide students with the knowledge and skills required for critically analyzing and solving design problems using specific applications to respond to a variety of audiences and contexts

Program Outcomes

Upon completion of the Bachelor of Science in Multimedia Design program, graduates will be able to:

- communicate effectively both orally and in writing
- integrate a range of tools, media and technology in the processes of design and production
- reflect upon and explain the ethical dimensions of practice within multimedia design fields
- apply appropriate skills, particularly digital tools and techniques, within multimedia design fields
- demonstrate knowledge and abilities necessary to create designed experiences that are developed using

- storyboarding, computer scripting, sound editing and interface design
- employ visual and verbal forms of communication to convey ideas and information
- demonstrate an understanding of the practical relationship between form, content and context
- demonstrate the ability to use new and emerging technology as a vehicle for the invention of form and a means of effective communication
- employ interactive and time-based media formats (and their delivery) to mediate and communicate content
- plan, coordinate and manage multimedia design projects
- conduct research, synthesize information and apply specific knowledge within the design process
- discuss, analyze and evaluate the technical, formal and conceptual aspects of mediated communication
- demonstrate a critical understanding of design practice within regional and global contexts
- analyze precedents of contemporary works of visual culture to inform multimedia design and production
- demonstrate an understanding of professional responsibility to client and audience

Curriculum

The BSDM degree program requires a minimum of four years of course work for a minimum of 126 credits, 69 credits of which are required in multimedia-related studies, including sound, video, text, computer graphics and theory courses. The specialization is supported by a minimum of 42 credits of general education requirements and a minimum of 15 credits of free electives. In addition, an approved internship is required of all students; firm/company placement normally occurs in the summer after completion of the third year.

The BSDM is a professional degree program designed for those who seek careers in modern design and media practice or in preparation of graduate studies. The curriculum follows standards of professional North American practice and is conceived to meet or exceed the requirements of multimedia industries in the United Arab Emirates.

Formal Admission to the Program

The number of seats in multimedia design is limited. Formal admission is competitive. Only the most highly qualified foundations year students will be admitted. To be considered for formal admission to the Bachelor of Science in Multimedia Design degree program, a

student must successfully complete the following minimum requirements.

- all four foundations studio courses (DES 111, DES 112, DES 131, DES 132) with a minimum grade point average (GPA) of C (2.00) in each sequence (Descriptive Drawing and Design Foundations)
- DES 121 Introduction to Architecture, Art and Design History and DES 122 Modern Developments in Architecture, Art and Design
- MTH 100 or any other MTH course
- at least one course in writing (WRI) at the 100 level or above
- a minimum of 27 undergraduate credits (credits earned including the above courses)
- a minimum CGPA of 2.30

In addition, selection for formal admission may also include portfolio review.

Formal notification of admission will be announced by the College of Architecture, Art and Design by the first week of the summer term after the release of the final grades by the Office of the Registrar at the end of the spring semester.

In the event that there are more students who qualify for formal admission than available seats, candidates will be admitted based on overall academic achievement, and a waiting list will be established. However, if there are fewer students who qualify for formal admission than available seats, consideration will be given to students who have applied for a change of major. If seats are still available at the time of fall registration, consideration will also be given to students who fulfilled requirements during summer term. The same formal admission criteria apply.

Only students formally admitted to the major are eligible for registration in the second-year studio course.

Note: To repeat a second-year studio course, students must compete for the limited number of seats in second-year studio courses based on the criteria for formal admission to the program.

Advancement Reviews

The performance of all students in multimedia design will be reviewed following the completion of the second year for retention in the program. To successfully pass this review and to continue in the major, a combined GPA of C+ (2.30) must be attained in MUM 201 and MUM 202, with a minimum grade of C- (1.70) in each course.

Students' performance is also reviewed following the completion of the third year for retention in the program. In order to continue in the major, a combined GPA

of C+ (2.30) must be attained in MUM 301-01 and MUM 302-01 with a minimum of C- (1.70) in each course.

A student who fails a studio, or does not attain the required studio average, will be required to meet with the head of the department.

A student who does not attain the required studio average must repeat the studio with the lower grade.

Any multimedia design studio may be repeated only once. A student who fails to achieve the minimum studio average necessary for promotion after repeating is dismissed from the program.

Degree Requirements

To qualify for graduation with a BSDM degree, students must successfully complete the following minimum requirements:

- a minimum of 126 credits, including a minimum of 36 credits in courses at the 300 level or above, as follows:
 - a minimum of 42 credits of general education requirements
 - 69 credits of major requirements
 - a minimum of 15 credits of free electives
 - five weeks of an approved internship
- a minimum studio average of 2.30 in the final studio sequence (MUM 405 and MUM 406)
- a minimum CGPA of 2.00

Graduation residence requirements must be met. For details, refer to Graduation Requirements in the Academic Policies and Regulations section earlier in this catalog.

Note: A student who does not attain the required studio average of 2.30 in the final studio sequence must repeat the studio with the lower grade.

Please see the proposed sequence of study for information on completing the requirements in four years.

General Education Requirements (minimum of 42 credits)

Students in the BSDM degree program must successfully complete the following general education requirements:

- a minimum of 18 credits in courses meeting the core general education requirements:
 - history and culture of the Arab world requirement: three to six credits
 - culture in a critical perspective requirement: three to six credits
 - arts and literature requirement: three to six credits
 - human interaction and behavior requirement: six to nine credits

In this section of the manual, we added a special feature to an already existing table called the Proposed Sequence of Study. We added a checkbox to every course within the table so students can check them off, as and when they are completed. We also hyperlinked the courses once again to the back of the catalog. Additionally, we also added 2 buttons under the table, the button that helps students do their course selection, and button to learn how to do a degree evaluation.

THE AUS CATALOG

[illegible]

This is the page that would open up once you click on the Course Selection button. This is a digitized course selection form that helps you choose your courses and submit it to your advisor automatically. It also has an additional 3 tabs such as, Prerequisites, GER Courses & Minors. These tabs show you which courses you are or are not eligible to do.

THE AUS CATALOG

HOW TO PRINT AND VIEW YOUR COURSE SCHEDULE

1. Log in to <https://banner.aus.edu>

2. Select **Student Services**.

3. Select **Registration**

4. Select **Term** to be **Fall 20??**

5. Select **Student Summary Schedule** to view your class schedule for the Fall 20?? semester.



Student ID	Name	Term
Level	College	School
Major		
Course	Stat Level Course Title	Credit Days Time Location Instructor
10443 MTH	US	US
10532 BIO	US	US
10533 CBA	US	US
11068 ECO	US	US
10543 ECO	US	US
Total Credit Hours: 15.00		
S Saturday U Sunday M Monday T Tuesday W Wednesday R Thursday F Friday		

This is the document that downloads automatically onto the users device once they click on the button on the catalog. The document teaches students how to do a Degree Audit.



MODE 7

Realize Offerings

WHAT IS THIS MODE ABOUT?

This section focuses on ensuring that the built prototype is based on people's experiences and can provide real value as economic value. It combines design and business innovators to establish "viable strategic directions". Also, it helps in creating roadmaps that are shared with the stakeholders to showcase the necessary steps to establish the solution (Kumar, 2012, p.13).

The purpose of this section to prepare and transform the abstract solution into a tangible prototype through several approaches. First, building the prototype through testing its "details, feasibility, viability, technical specifications". Second, defining strategies by "marketing positioning, platforms, partners, and business plans key to the innovation's success" (Kumar, 2012, p.13). Third, defining tactics by identifying capabilities to achieve strategies and development plan. Fourth, developing initiatives as "collecting resources, constructing budgets and schedules, hiring teams, and creating plans for pilots and launches" (Kumar, 2012, p.13).

WHY IS THIS MODE IMPORTANT AND HOW IS IT RELEVANT TO THE PROJECT?

This mode is important because looks back at all the other modes and analyzes the solution for the problem statement. It helps build the solution into a physical prototype after testing its feasibility, viability, a technicality in the real world. As Vijay Kumar (2012) states, "The intent in this mode is to explore how our ideas might take form in the real world and be successful" (Kumar, 2012, p.285). This mode is essential because helps in introducing and launching the solution to the target market through marketing and advertising it.

For our project, mode seven is very important because it helps us build the solution from an abstract idea into a tangible prototype. Through the tools, in this section, we can test the prototypes efficiency competence in the market by examining the challenges it solved and overcame.

THE RIGHT GUIDE

A SIMPLER GUIDE TO CHOOSING YOUR FUTURE

A Design Thinking Project by:
Aqeela Virjee
Ayesha Al Hashimi
Naqiyah Mustafa

PROBLEM STATEMENT

TO CREATE A HOLISTIC EXPERIENCE FOR CURRENT AND POTENTIAL AUS STUDENTS THAT ENHANCES THEIR DEGREE SELECTION PROCESS, THAT, IN TURN, HELPS THEM MAKE LONG-TERM EDUCATIONAL CHOICES.

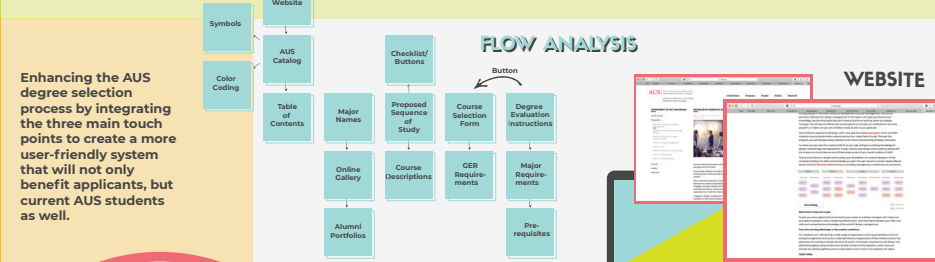
CHALLENGES

& SOLUTIONS

SOLUTION SUMMARY

- 1 The current AUS website is very text heavy and does not break down the majors into the four years and the courses that students will take during that period of time.
- 2 The AUS catalog is currently difficult to navigate and slightly hard to comprehend, especially for new students.
- 3 The course selection process at AUS is manual and can be confusing, both for current and new students.
- 4 There is a lack of awareness about minors amongst AUS applicants as well as current students.
- 5 Potential CAAD applicants are sometimes confused with the course descriptions in the catalog and want to visually see the projects that are created in these courses.

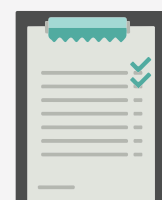
- 1 We will create an infographic for each major on the AUS website that will visually summarize the courses that students will undertake. This will also have links to the relevant area in the AUS catalog for interested students to read more.
- 2 In order to solve this, we will edit the current catalog slightly. We will add symbols and color code the majors for readability. In addition, we will add links from the table of contents to the major descriptions, as well as links between the proposed sequence of study for each major and the course descriptions at the back of the catalog.
- 3 Create buttons in the proposed sequence of study that will make it look like a checklist, so students can cross off courses once they complete them. Digitize the course selection form and add a link for it under each major in the catalog. This digital form will allow students to see what courses fit into their schedule, if they have the pre-requisites for the course, and what GER requirements they can register for to satisfy their course requirements. Create instructions in the catalog about how to create a degree evaluation form, which many new students are unaware about.
- 4 We will integrate information about potential minors that a student can pursue within the digitized course selection form. This will allow students to see what minors they can apply for and which courses they need to take to fulfill the requirements for those minors.
- 5 We will create links under each CAAD major to the gallery on the AUS website that has students' projects. We will also add a section in the AUS website that highlights the portfolios of alumni from those majors, so as to see what one can accomplish after graduating with a degree from that major.



KEY BENEFITS

- Enhances the course registration process at AUS
- Improves the understanding of CAAD majors and the work produced within them
- Promotes the various minors offered at AUS
- Develops the readability and accessibility of the AUS catalog
- Simplifies the CAAD website and makes it easier to understand the majors through visually appealing diagrams
- Creates links between the major touchpoints during the registration process (catalog, website, and course registration form)

COURSE SELECTION FORM



Vision Statement is a method that forms an overview of the solution's results and how it could be implemented. It aims to summarize all the research's analysis and express it in a clear manner for the stakeholders to understand. Also, it defines the solution's "value proposition, targeted users, key activities, performance, channels, resources, cost structure, revenue streams, strategy, and similar key factors" (Kumar, 2012, p.315).

This tool was relevant to us because it helped us explain our solution in a clear and simple manner for the stakeholders to understand. It helped us organize the solution's implementation processes and methods in detail. For instance, we reviewed and summarized the project's key results. Then, created a vision statement outline by including customers, needs, opportunities, new values, and risks. We even formed a title with a supporting phrase, short descriptions of challenges and solutions, and a diagram of key benefits of the solutions" (Kumar, 2012, p.315).

We choose to use the Vision Statement to form an outline for our solution and explain it in a clear and organized way. It helped us understand our target audience needs and wants better, in which we were able to add and form new benefits and values for our solution's processes (Kumar, 2012, p.315).

In conclusion, this paper explored Design Methods and established its 7 mode concepts in order. It developed our topic step by step. Therefore, in mode one “Sense Intent”, we detected trend and development changes in the market by using brainstorming, word listing, and intent statement tools. These tools helped us select a specific topic to focus on, which was college students find it difficult to make long term decisions related to college life. In mode two “Know Context”, we establish a research plan and collected secondary data by using Contextual Research Plan and Publications Research tools. These helped us organize the research paper’s structure (topic area, sources, methods, and timing) and collect credible sources related to our topic.

In mode three “Know people”, we conducted primary research by empathizing with our target audience, who are AUS college students. We used Surveys, Interviews, Observations, Five Human Factors, Stakeholder Map tools to help us gain a deeper insight into our topic’s problem. In mode four “Frame Insights”, we sorted and clustered all gather data from mode two and three by analyzing repeated patterns that could lead to highly innovative opportunities.

We used Observations to Insights, Symmetric Clustering Matrix, and Semantic Profile tools to help us gain different perspectives about each insight as to how it’s difficult for students to make decisions on a daily basis. In mode five “Explore concepts”, we generated fresh and bold ideas from previous modes’ data by using Personas, Concept Seniors, Opportunity map, and Innovation Funnel tools. These tools helped us find innovative opportunities on how to improve long-term decision making for college students.

In mode six “Frame Solutions”, we formed a careful analysis of the concepts from mode five and formed systems between them, in order to create a solution. We used Causes Diagram, perspective Value Web, and Flow Analysis tools to test and evaluate the potential solutions. In mode seven “Realize Offerings”, we selected a specific solution based on mode six analysis. It was creating a user-friendly experience for current and potential AUS students to enhance the degree selection process, that, in turn, helps them make long-term educational choices.

This solution was built through Vision Statement tool, which helped us analyze the solutions innovation potentials and efficiency in detail. After that, we establish the research’s results and discussions by explaining how these tools were significant to build the paper from choosing the problem of launching the solution. Hence, these modes have helped us build our paper in chronological order. We were able to learn how to establish a specific problem through several processes and build a potential prototype in a limited amount of time.

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APPENDIX

The appendices for this book have been provided to the professor or person in charge in the form of a flash drive.

