

# Creating Intelligent Academic Advisors

Research plan

Authors: Jasmine Orange, Michael Allen, Jiangli Lu

**Stakeholders:** Ovetta Sampson (professor and advisor), Group A team members (researchers, designers, and developers), college students [DePaul and others] (target users)

## **Background:**

- DePaul students must navigate multiple avenues to discover classes that not only appeal to their interests but also count towards their degree; the difficulty of coordinating with their advisor is only lessened by the difficulty of finding classes through DePaul's enrollment system. With unintuitive UI, a lack of ease when finding class descriptions, and a course schedule that consistently has non-existent courses scheduled - for full-time students, figuring out how they want to spend their time at DePaul can be a chore. We believe in implementing an artificial intelligence that makes course suggestions based on two factors; one, previous students with like-minded interests, and two, course suggestions that let users know when to take the class based on the quarter they are in. By implementing the AI, we believe that this will create a more enriching and curated college experience for DePaul students but will also allow students to focus on what matters most, their education.

**Problem Statement:** *How might we use AI-driven technology in helping students plan their classes to better suit their interest as well as their academic needs for graduation?*

## **Research Goals:**

- Do students utilize their academic advisors to figure out their classes? Why or why not?
- What are the current student pain points, frustrations, and barriers when getting academic advice on classes?
- What are the current advisors' pain points, frustrations, and barriers when giving academic advice on classes?
- In what areas do students and advisors want the intelligent advisors system to help them with?

## **Participants:**

- 9 DePaul CDM students
- 3 Depaul CDM advisors

## **Research Method:**

- Interviews and observations: We will randomly choose 9 DePaul CDM students and 3 DePaul CDM advisors for the interview. First, we will send consent form to the participants through emails, then interview the participants via zoom meetings, take notes and record the meetings for information and observation purpose.

- Data collection: After meetings, we will rewatch the meetings, add on to our meeting notes, and put on all the notes in one document by DePaul students category and DePaul advisor category.
- Data analysis: We will analyze the collected data to find out:
  - if current DePaul students' utilize their academic advisors to figure out their classes and reasons behind their decisions;
  - DePaul students' pain points, frustrations, and barriers when getting academic advice on classes.
  - DePaul advisors' pain points, frustrations, and barriers when giving academic advice on classes.
  - areas students and advisors want the intelligent advisors to help them with

### **Screener Questions:**

*(Rejection Criteria: If a participant is under the age of 18, it should be automatically rejected. If the participants choose any of the options with "Reject" next to it, they should not be selected to participate in our study, as they do not meet our criteria for the project.)*

- 1. Are you at least 18 years old?**
- 2. Are you currently a student or faculty at an academic institution?**
- 3. What's your major or program?**

### **Step 1: Introduction**

#### **Introduce yourself and the project:**

My name is \_\_\_\_\_. Thank you for taking the time to meet with me. I am working on a university research project. My team is interested in learning more about how students plan for their classes with their academic advisor

This activity is voluntary. There are no right or wrong answers to my questions, and you may decide to not answer any of my questions. Your responses will be confidential and will only be used in connection with this class assignment.

Our interview should last about 30 minutes.

Before we begin, have you had time to review the informed consent form?

*[If the participant has not had time to review the informed consent form, provide them with the informed consent form and give them time to read it. If the participant has already reviewed, skip to the next question.]*

Please read over the informed consent form and let me know if you have any questions.

*[Wait for the participant to indicate that they have read the informed consent form and give them an opportunity to ask questions.]*

Do you give your consent to participate in the described activity?

Do you give your consent to being recorded?

Thank you. Do you have any questions before we begin?

*[Begin recording, if applicable]*

## **Step 2: Warm-up (student)**

### **Demographic questions**

- How old are you?
  - 18-24
  - 25-34
  - 35-49
  - 50+
- Are you an in-state, out-of-state, or international student?
- Are you an undergrad or graduate student?
- Are you a full-time or part-time student?
- Majors
- Year in colleges
- College/department

### **Build rapport with the participant:**

*[Go off-script as needed to make the participant feel comfortable. Record audio/video.]*

- Where are you in your academic career? (e.g. graduating soon? Just started?)
- On a scale of 1-5 (with 1 being the least experienced and 5 being the most experienced), how would you describe your knowledge on what classes to take?
- What are you majoring in?
- What made you choose that major?
- What do you like about the classes you've taken thus far?
- What do you dislike?

## **Step 3: General Issues - Academic Advisory**

- What's your relationship like with your advisor?
- Do you speak to your advisor for your academic planning?
- If yes, how often do you talk to them?
- If not, What's stopping you from meeting them?

- What's the average length of your advising appointments
- On a scale from 1- 5 how helpful is your advisor with picking classes for the quarter?

#### **STEP 4: Deep Focus**

- What tool do you use for your academic planning?
- Do you find seeking academic advice from your advisor is helpful for your academic planning?
- In which areas do you want your academic advisor to help you with?
- If there is an AI system/intelligent advisor available, do you feel comfortable using this system instead of talking to a human advisor?
- If yes, why?
- If not, why?
- What do you expect this intelligent advisor can do for you?

#### **STEP 5: Wrap-up**

*[ask if there is anything else they would like to add or mention that we may not have asked]*

Thank you so much for your time and for answering our questions today. It will be very helpful to my team and for our project. If you have any questions or concerns, please feel free to reach out to me. I can be reached at [your email or number]

#### Schedule

##### **Week 2:**

- Create new informed consent for interviews - Completed
- Begin recruiting via participant pool and/or relevant online forums
- Literature reviews

##### **Week 3:**

- Complete the interview protocol (research plan) - Completed

##### **Week 4:**

- Finalize the recruiting efforts for expert interviews
- Finalize the recruiting efforts for student interviews
- Conduct interviews

##### **Week 5:**

- Organize interview notes
- Synthesize the data with affinity diagram

##### **Week 6:**

- User Journey map for the students
- User journey for the advisors

**Week 7:**

- Ideation

**Week 8:**

- Wireframing the prototype (low fidelity)

**Week 9:**

- Create mid fidelity prototype

**Week 10:**

- Create the high fidelity prototype

**Week 11:**

- Complete the presentation
- Finalize the prototype

## Appendix

### Interview Informed Consent

### ADULT CONSENT TO PARTICIPATE IN RESEARCH

#### **Artificial intelligence and class advisory**

**Principal Investigator:** Jasmine Orange, Michael Allen, Jiangli Lu

**Institution:** DePaul University, Chicago, Illinois, USA

**Department, School, College –** College of Computing and Digital Media (CDM)

**Faculty Advisor:** Ovetta Sampson – CDM, DePaul University

#### **Key Information:**

##### **What is the purpose of this research?**

We are asking you to be in a research study because we are trying to learn more about students and faculties' experience with class advisory. This study is being conducted by Jasmine Orange, Michael Allen, and Jiangli Lu, graduate students at DePaul University as a requirement to obtain their master's degree. This research is being supervised by their faculty advisor, Ovetta Sampson..

We hope to include about 15 people in this research..

##### **Why are you being asked to be in the research?**

You are invited to participate in this study because you have indicated that you currently are in college, as a student. You are also over the age 18. This study is not approved for the enrollment of people under the age of 18.

##### **What is involved in being in the research study?**

If you agree to be in this study, being in the research involves being interviewed by one or more of the researchers conducting this study. You will be asked interview questions to gain more insight into your behavior relevant to our research topic.

The interview may be audio-recorded and/or video recorded (if you give your consent to do so). The recordings will be transcribed into written notes later to get an accurate record of what you said.

***Are there any risks involved in participating in this study?***

Participating in this study does not involve any risks other than what you would encounter in real life. You may feel uncomfortable or embarrassed about answering certain questions. You do not have to answer any question you do not want to.

***Are there any benefits to participating in this study?***

You will not personally benefit from being in this study.

We hope that what we learn will help other people in the future by gaining more insight into how a technological solution might be able to help students make more informed choices on their classes and schedule while in college in order to get the education that they desire in different topics.

***How much time will this take?***

This study will take about 30-45 minutes of your time.

**Other Important Information about Research Participation**

***Can you decide not to participate?***

Your participation is voluntary, which means you can choose not to participate. You may withdraw from the research at any time. There will be no negative consequences, penalties, or loss of benefits if you decide not to participate or change your mind later and withdraw from the research after you begin participating.

***Who will see my study information and how will the confidentiality of the information collected for the research be protected?***

The research records will be kept and stored securely. Your information will be combined with information from other people taking part in the study. We will not include your name or any information that will directly identify you. Some people might review or copy our records that may identify you in order to make sure we are following the required rules, laws, and regulations. For example, the DePaul University Institutional Review Board and/or the Data and Safety Monitoring Board may review your information. If they look at our records, they will keep your information confidential.

To prevent others from accessing our records or identifying you should they gain access to our records, we have put some protections in place. These protections include using a

code (a fake name, a study ID number, etc.) for you and other people in the study and keeping the records in a safe and secure place (using a password-protected computer, encrypting our records, etc.).

The audio and/or video recordings will be kept until accurate written notes have been made, then they will be destroyed.

**Who should be contacted for more information about the research?**

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions, suggestions, concerns, or complaints about the study or you want to get additional information or provide input about this research, you can contact the researchers at the following email addresses:

Jasmine Orange - ([jorange@depaul.edu](mailto:jorange@depaul.edu))

Michael Allen- ([Mallen62@depaul.edu](mailto:Mallen62@depaul.edu))

Jiangli Lu - ([jcairnes@depaul.edu](mailto:jcairnes@depaul.edu))

You can also contact the faculty advisor(s):

Ovetta Sampson ([osampson@depaul.edu](mailto:osampson@depaul.edu))

You may also contact DePaul's Office of Research Services if:

- The research team is not answering your questions, concerns, or complaints.
- You cannot reach the research team.
- You want to talk to someone besides the research team.

**Statement of Consent from the Subject:**

By agreeing to participate, I am allowing the researcher to audio or video tape me as part of this research. I also understand that this consent for recording is effective until the audio can be properly transcribed. On or before that date, the tapes will be destroyed.