Problem Description

Our topic is supporting undergraduate students in mapping out their future semesters. Our target users are undergraduate students at the University of Utah who have not yet finished planning their future semesters or are wanting to create a new plan. All undergraduate students have a need to plan out what classes they will take in order to graduate. We want to study how users go about this process in planning their courses and what information, resources, and devices they use. A key problem for supporting students in mapping future semesters is that it is hard to plan when the best time to take a particular course would be. Factors leading to this decision could be if the course has prerequisites, is only offered certain semesters, or is a particularly difficult course that will require more time than the typical assumption based on the number of credits. Certain classes the student may want to take to fulfill requisites may have prerequisites that aren't actually required for their degree and these extra classes could be hard to plan along with their actual required courses. Students don't know when the best time to take a course would be that would fit their degree requirements and personal needs.

Revised:

Our topic is on supporting undergraduate students in mapping out their future semesters. Our target users are undergraduate students at the University of Utah who have not yet finished planning their future semesters or are wanting to create a new plan. All undergraduate students need to plan out what classes they will take in order to graduate. We want to study how users go about this process in planning their courses and what information, resources, and devices they use. The current system of using degree audit, supplemented by individual college's

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websites such as the School of Computer site, provides some information to students about courses, but not enough. With the current system, the main problems facing undergrads trying to plan their future semester(s) are that they don't know how difficult courses will be, they can't always tell when classes are offered (fall/spring), and they never know what days of the week the classes will be offered. The problem is further complicated by the fact that the university may not even know when they are going to offer courses until a few months before the semester begins. If this is true, it would make providing students with information about what days of the week/what semesters courses will be offered in the future impossible.

Milestone 1: First Contextual Inquiry Plan

2. Initial Plan

2a. Inquiry Basics

- **Who is your participant?** Will Samrick.
- **How is this participant relevant to your focus?** He is an undergraduate student at the University of Utah who needs to plan his courses to graduate.
- **When are you planning on conducting the inquiry?** September 12th
- **Has the planned inquiry schedule been confirmed with the participant?** Yes
- **Where will the inquiry take place?** Haydn's house.
- **What makes this location contextual?** Students usually plan their future semester in their own home.
- **If the inquiry is not in person, explain how a remote option will give you the information you need:** This inquiry is in person.
- **Who from your team will be present for the first inquiry?**
    - **Conductor:** Haydn Thurman
    - **Observer/note-taker:** none

2b. Initial Focus

How do students currently map out their undergraduate semesters? Are they aware of the degree planner tool? We will need to see what students look at to plan out their degree and how they determine when to take certain courses. We want to see what resources and tools they utilize during this process and what factors may inhibit them. For example, the participant may

Milestone 1: First Contextual Inquiry Plan

have been given a document with an example plan for all 4-5 years that they look at to plan their degree.

2c. Task List

- Ask them to go about the process of planning courses for future semesters
- Ask them to show us how they determine when to take certain courses
- Ask them to show us how they choose a course to fill a requisite when there are multiple options that fulfill that requisite.

2d. Staying Focused

If the participant is interested in multiple degrees and wants to plan them out, we can intervene and ask them to choose just one. For the purpose of the interview we just want to see how they plan out their semesters for one degree in particular.

2e. Detailed Plan

- **Introducing yourself:** Hi Will, I'm Haydn Thurman. For my human-computer interactions class, I will be researching the topic of how students plan out their future semesters.
- **Confirming that the participant wants to participate, and that they can stop the inquiry or decline to answer any questions that make them uncomfortable:** I would like to verify that you are willing to participate in this study. I want you to know that you can stop the inquiry or decline to answer any questions if it makes you uncomfortable.
- **Thanking the participant for their time:** I really appreciate you spending the time to meet with me and show me how you plan your semesters.

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- **Explaining what to expect during the contextual part of the inquiry:** During the inquiry, I want to watch as you try to plan your future classes at the University of Utah. Throughout the process, I may interrupt to ask questions and please let me know if it is a bad time to interrupt.
- **Overview / background / warm-up (before the contextual part):** I'm working on building a software that makes planning future classes much easier.
- **Transition to the contextual part:** I will be observing to see how you go about planning your courses. So please, go ahead and try to plan your next semesters at the U.
- **Wrap-up:** We have finished going through you planning your future semesters. I've learned a lot and you were a big help. Do you have any questions?
- **Thanking the participant again:** Thank you again for your time.

3. Predictions and Assumptions

We predict that the participant has never used this part of the degree audit. They will likely have some other method he uses to plan out his semesters. If this is the case, we expect that they will use a combination of websites in order to gather information on what courses to take. If they do use the degree planner, we predict that it will not meet all of their needs. We might change or expand our focus depending on the issues the participant runs into, such as deciding when to take courses with prerequisites.

4. Challenges

If the participant is unaware of the degree planner it could take a long time for them to map out their semesters. It may also be difficult to get the participant to explain in detail how exactly they determine which classes to take. Some requisites have a large number of options that fulfill that

requirement and it could be difficult to determine precisely why a student picks one class over all the others.

END OF MILESTONE 1

Milestone 2: First Contextual Inquiry Writeup

1. Inquiry Basics

- **Interviewer:** Haydn
- **Observer(s):** John, Cannon, Wyatt
- **Participant:** Will Samrick
- **What makes the participant relevant:** Will is an undergraduate student at the University of Utah. He has planned previous semesters and has future semesters that still need planning.

1a. Inquiry Structure

- **What did you find out during the intro/overview?**

  The participant heavily uses the degree audit to plan their semesters. Also, they look at the number of credits they have left and make sure they are taking enough to stay on track. They only plan for the next semester, not any further in the future. It is very important for them to graduate in 4 years.
- **What did the participant say in the intro/overview that did not match what you found in the contextual part of the inquiry?**
  - They didn't mention that they write out their classes on paper.
  - He said he wanted to take Summer classes but didn't plan on it in the contextual part.
- **How did you do the transition?**
  - **What the interviewer said/did (roughly, does not need to be a transcript):**

Milestone 2: First Contextual Inquiry Writeup

        - Double checked that the participant was comfortable participating in the interview and explaining how they select classes while the interviewer watches their process.
        - Communicated that the interview can be stopped at any time if the participant is uncomfortable.
        - Made the participant aware of our role in the interview and that we are here to learn from them and their process.
    - **What was good about the transition:**
        - Informed the participant about the process and made certain that they know that they are able to stop at any time and what would be expected of them.
    - **What could be improved for next time:**
        - Interviewer forgot to explicitly inform the participant that they could decline to answer a question, but did explain that if they're uncomfortable that they should let us know and we can discuss how to proceed or stop the interview.
- **What tasks did you observe the participant doing (or explain retrospectively)?**
    - We observed him finding available classes to take for the future.
    - We observed him choosing specific classes for the next semester.
    - We observed him planning how many credits he needs to take by dividing up the credits he has not done yet by the amount of semesters he has left.
- **What artifacts did you observe/collect? Include images/descriptions.**
    - A screenshot of his audit:
    - A picture of his notes:
- **What data did you get out of the CI?**

Milestone 2: First Contextual Inquiry Writeup

- Likes to look at classes and pick them day of
- Goes to degree audit first
- Done with gen-eds, so needs to take required courses
- He makes sure they're interesting classes
- Writes down on paper the classes he wants
- Picks classes cause they are "sick"
- Doesn't care what he takes as long as they are required and fun
- Has done pre-reqs for all classes
- Philosophy major, taking 3 philosophy classes is too much
- Looking at unfulfilled hours, dividing by number of semesters to find out the amount of credits per semester
- Parents won't pay for more than 4 years, so he will not take more than 4 years
- Said an interesting/fun scale would be a good idea
- Participant clicks on classes to get more information on them.
- Plans semester when able to register
- Doesn't want to be locked in when registering
- Rather take wanted classes than classes that fit schedule
- Happy that he did gen-eds first
- Wants to take at least 1 "chill" class/semester
- Wants to have a balance of hard and easy classes
- Was aware of the degree planner option
- Audit seems more important than a planner
- If in between 2 classes, will choose the one with better professor
- Doesn't like boring professors
- Says the professor has a 5/10 importance of taking a class

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Milestone 2: First Contextual Inquiry Writeup

- **Data that would likely not have come out of a non-contextual interview:**
    - Will uses paper for tracking interesting classes. This would not have come out of a non-contextual interview because we assumed the participant would solely use his computer.
    - Will clicks on classes to get more information on them. A non-contextual interview would probably have the participant saying he chooses the interesting classes, but we would not know how he finds the classes interesting if it wasn't for him clicking specific classes in the audit and reading up about them.
    - Will doesn't like boring professors, and uses "ratemyprofessor.com" to decide between two classes. While we could have figured out how important professors are to our participant through a non-contextual interview, we would not know the ways he figures out how he chooses a good professor.

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Milestone 2: First Contextual Inquiry Writeup

2. Contextual Inquiry Techniques

2a. Successes

Example 1:

- **Technique:** Getting Concrete Data
- **What happened in the inquiry:** Interview was conducted in person. Interviewer asked the participant to plan out their next semester and the participant dove into the task. Having the interviewer there in person helped the participant stay on track.
- **Explanation of why this is a successful use of the technique**:
  It allowed the interviewer to more closely follow what the participant was doing and what steps they were taking. It allowed the interviewer to get more concrete data.

Example 2:

- **Technique:** Returning to the Focus
- **What happened in the inquiry:** Participant began discussing how he likes to live in the moment. He gave an example of him randomly going into a building and applying for a job. This got off topic, and the interviewer asked the participant to focus again on planning their semester.
- **Explanation of why this is a successful use of the technique**:
  While what the participant was discussing may have been interesting, it was not relevant to our focus. It was successful because it brought the inquiry back to our focus.

Example 3:

- **Technique:** Checking an Interpretation

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- **What happened in the inquiry:** The interviewer said something along the lines of, “So what I’m hearing is that you typically like to take classes based on your interest and not so much on requirements.” The participant was excited about this interpretation and agreed, saying that while requirements are important, he must also be taking interesting classes.
- **Explanation of why this is a successful use of the technique**:
  This was successful because the interviewer was able to ensure that his interpretation was correct.

2b. Non-Successes

Example 1:

- **Technique:** Missed opportunities to get concrete data
- **What happened in the inquiry:** The participant said that he just picked whatever classes sounded fun and that fulfilled a requirement in his degree audit. The interviewer and observers didn’t think anything of this and continued observing the participant plan his semester.
- **Explanation of why this is not a successful use of the technique, and what should have happened instead**: The interviewer should have asked how the participant knew if he had already fulfilled each class’s prerequisites or not. Because now we don’t know if he waited until it was time to register and then found out that he didn’t meet the prerequisites? Or maybe he just looked at each class and mentally checked off each prereq. We will never know.

Example 2:

- **Technique:** Missed opportunity to get concrete data

Milestone 2: First Contextual Inquiry Writeup

- **What happened in the inquiry:** The participant mentioned that they like to use ratemyprofessor.com to help them figure out if they want to take a class or not. The interviewer did not ask them to expand on that.
- **Explanation of why this is not a successful use of the technique, and what should have happened instead**:

  It is not a successful use of the technique because we could have got more data. The interviewer should have asked them to go about that process with one of the professors who is teaching a course he wants to take.

Example 3:

- **Technique:** Missed Opportunity to Check an Interpretation
- **What happened in the inquiry:** When asked about philosophy prerequisites, Will said he has finished all the prerequisites for his philosophy classes. We assumed that he took classes to finish all of them, but not sure when or if he even had pre-reqs.
- **Explanation of why this is not a successful use of the technique, and what should have happened instead**: This would have been a perfect time to check our interpretation, yet we missed the opportunity. If we could go back, I would check my interpretation that he finished all his pre-reqs. Then I would ask him when he finished the pre-reqs, if he planned the pre-reqs before he took them, and how many prerequisites he had to take.

Milestone 2: First Contextual Inquiry Writeup

3. Reflection

3a. Prediction/Assumption 1:

- **Prediction/assumption:** We predicted that the participant would not be aware of the degree planner option.
- **Evaluation:** It was incorrect
- **Data:** Participant was aware of the degree planner option
- **Explanation:** The participant stated that he knew there was a degree planner option but never felt like it was something he wanted to use. He seemed to believe that it would be more simple to plan out on paper.

3b. Prediction/Assumption 2:

- **Prediction/assumption: "**we expect that they will use a combination of websites in order to gather information on what courses to take"
- **Evaluation:** it was correct
- **Data:** Interviewer observed participant using multiple websites over the course of the contextual interview.
- **Explanation:** The participant used ratemyprofessor, degree audit website and the course catalog over the course of the contextual interview. Each of these websites had useful information that the participant aggregated to make decisions on what courses to take.

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Milestone 2: First Contextual Inquiry Writeup

4. Next Steps

4a. Tasks

Based on the results of this inquiry we need to find a student to interview that plans more than one semester in advance. This way we can see how they plan courses that can only be taken in series and how they fit generals in around required classes. Additionally, it would be good to interview a student who lives far from campus as they may want to prioritize stacking as many classes as possible into as few days as possible.

4b. Preparation

It would have helped to have the participant on Zoom so the observers could also see his screen, we plan on implementing this in our future inquiries. We will do this by inviting the participant to a Zoom call and asking him/her to share their screen.

END OF MILESTONE 2

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Milestone 3: Writeup for Remaining Contextual Inquiries

1. Inquiry Overview

Name	Will	Alyssa	Skyler	
Conductor for Inquiry	Haydn	John	Cannon	
Observer for Inquiry	Wyatt, Cannon, John	Haydn, Wyatt	Wyatt	

Milestone 3: Writeup for Remaining Inquiries

2. Inquiries

[Copy and paste this for each inquiry you conducted]

2a. Inquiry [2]:

- **Inquiry conductor:** John
- **Inquiry observer/note-taker:** Haydn and Wyatt
- **What was your focus for the inquiry?**
- **Participant:** Alyssa
- **What makes them relevant to your problem?** She is a computer science major at the University of Utah. She is also a big planner who wanted to plot out her remaining semesters.
- **What tasks did you observe the participant doing (or explain retrospectively)?**
    - Participant found out what classes and elective credits she still needed to take.
    - Participant determined what classes she wanted to take and when they are offered.
    - Participant created a finalized schedule for the next three semesters after taking into account when classes were offered and their perceived difficulty.
- **What artifacts did you observe/collect? Include images/descriptions.**
    - **Artifact #1:** The google doc that the participant used for notes. It's color coded based on spring/fall course availability and the certificates the participant wants to earn have the required courses listed under them.

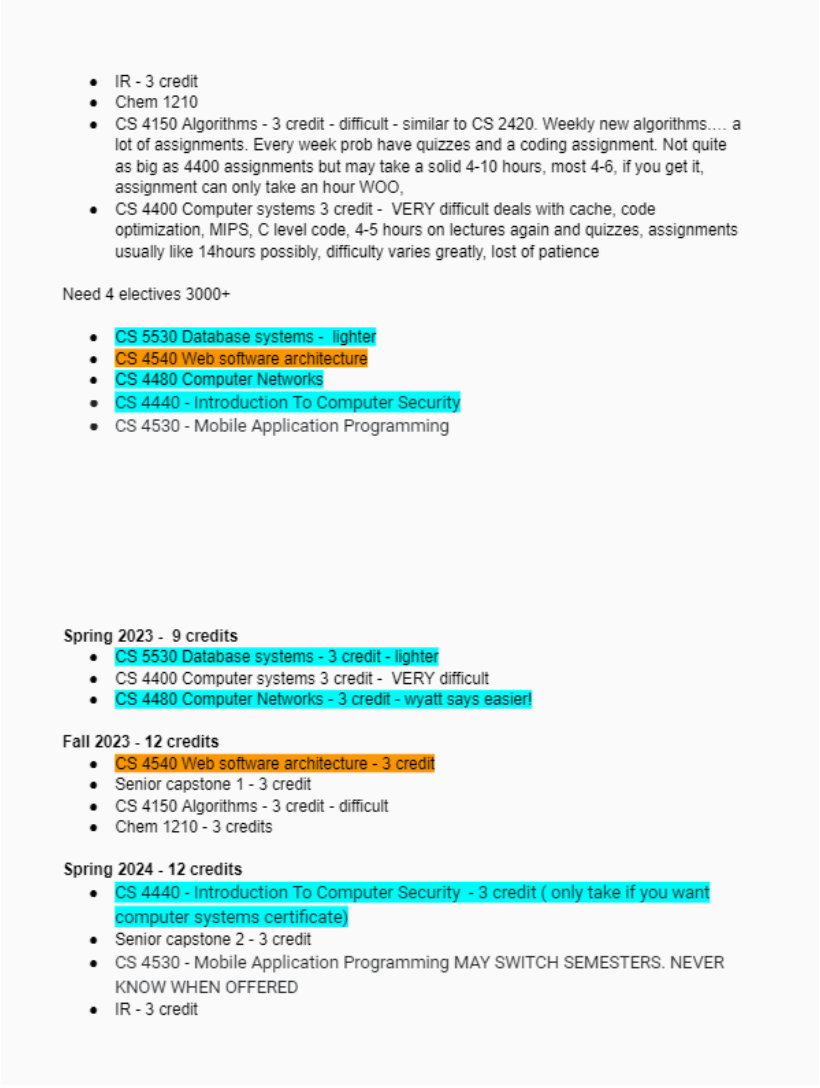
Milestone 3: Writeup for Remaining Inquiries

Certificates

Software Development
- CS 3540 - Human/Computer Interaction
- CS 4230 - Parallel Programming
- CS 5530 Database systems
- CS 4540 Web software architecture
- CS 4480 Computer Networks

Web/Mobile Development
- CS 3540 - Human/Computer Interaction
- CS 4480 - Computer Networks
- CS 4540 - Web Software Architecture
- CS 5530 - Database Systems

Computer systems
- CS 4230 - Parallel Programming
- CS 4480 - Computer Networks
- CS 5530 - Database Systems
- CS 4440 - Introduction To Computer Security



- IR - 3 credit
- Chem 1210
- CS 4150 Algorithms - 3 credit - difficult - similar to CS 2420. Weekly new algorithms.... a lot of assignments. Every week prob have quizzes and a coding assignment. Not quite as big as 4400 assignments but may take a solid 4-10 hours, most 4-6, if you get it, assignment can only take an hour WOO,
- CS 4400 Computer systems 3 credit - VERY difficult deals with cache, code optimization, MIPS, C level code, 4-5 hours on lectures again and quizzes, assignments usually like 14hours possibly, difficulty varies greatly, lost of patience

Need 4 electives 3000+

- CS 5530 Database systems - lighter
- CS 4540 Web software architecture
- CS 4480 Computer Networks
- CS 4440 - Introduction To Computer Security
- CS 4530 - Mobile Application Programming

Spring 2023 - 9 credits
- CS 5530 Database systems - 3 credit - lighter
- CS 4400 Computer systems 3 credit - VERY difficult
- CS 4480 Computer Networks - 3 credit - wyatt says easier!

Fall 2023 - 12 credits
- CS 4540 Web software architecture - 3 credit
- Senior capstone 1 - 3 credit
- CS 4150 Algorithms - 3 credit - difficult
- Chem 1210 - 3 credits

Spring 2024 - 12 credits
- CS 4440 - Introduction To Computer Security - 3 credit (only take if you want computer systems certificate)
- Senior capstone 2 - 3 credit
- CS 4530 - Mobile Application Programming MAY SWITCH SEMESTERS. NEVER KNOW WHEN OFFERED
- IR - 3 credit

- **Artifact #2:** The U of U SoC handbook with course listings:

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Milestone 3: Writeup for Remaining Inquiries

SCHOOL OF COMPUTING UNDERGRAD COURSE OFFERING LIST FOR CS MAJORS Availability subject to change 02.01.2021

Required Core Courses

Course #	Course Name	Credits	Semester	Required Pre-Reqs (C- minimum grade needed)
CS 1030	Foundations of Computer Science	3	Fall/Spring	Co-Req: Math 1060 or Math 1080
CS 1400	Introduction to Computer Programming	3	Fall/Spring	Co-Req: Math 1060 or Math 1080
CS 1410	Intro to Object-Oriented Programming	4	Fall/Spring	CS 1400, Co-Req: Math 1210
CS 1420	Accelerated Intro to Object-Oriented Prog	4	Fall/Spring	Co-Req: Math 1210
CS 2100	Discrete Structures	3	Fall/Spring	CS 1410 or CS 1420 & Math 1210
CS 2420	Intro to Algrithms & Data Structures	4	Fall/Spring	CS 1400 & CS 1410 or CS 1420
CS 3130	Engineering Probability & Statistics	3	Fall/Spring	Major Status
CS 3500	Software Practice	4	Fall/Spring	CS 2420 & major status
CS 3505	Software Practice II	3	Fall/Spring	CS 3500 & major status
CS 3810	Computer Organization	4	Fall/Spring	CS 2420 & major status
CS 4150	Algorithms	3	Fall/Spring	CS 2100, CS 3500 & major status
CS 4400	Computer Systems	4	Fall/Spring	CS 3810
*CS 4000	Senior Capstone Design (CS)	3	Fall/Spring	CS 3505 & (WRTG 3014, 3015 OR HONOR 3200) & major status
CS 4500	Senior Capstone Project (CS)	3	Fall/Spring	CS 4000 & major status

Elective Courses

Course #	Course Name	Credits	Semester	Required Pre-Reqs (C- minimum grade needed)
CS 3020	Research Forum	1	Fall	CS 2420 & major status
CS 3100	Models of Computation	3	Fall/Spring	CS 2100 & major status
CS 3190	Foundations of Data Analysis	3	Fall	CS 2100, CS 2420 & Math 2270; Co-Reqs: CS 3130/ECE 3530 or Math 3070
CS 3520	Programming Language Concepts	3	Fall	CS 3500 & major status
CS 3540	Human/Computer Interaction	3	Fall	CS 2420 & major status
CS 3710	Computer Design Lab	3	Fall	CS 3700, CS 3810 & major status
CS 4230	Parallel Programming	3	Fall	CS 3505 & CS 3810
CS 4540	Web Software Architecture	3	Fall	CS 3505 & major status
CS 4600	Intro Computer Graphics	3	Fall	CS 3500, Math 2270 or 2250 & major status
CS 4640	Image Processing Basics	3	Fall	CS 2420 & major status
CS 5150	Advanced Algorithms	3	Fall	CS 4150 & major status
CS 5310	Robotics	3	Fall	Math 2270 or 2250, Phys 2210 & major status
CS 5340	Natural Language Processing	3	Fall	CS 3505, CS 3100 & major status
CS 5360	Virtual Reality	3	Fall	CS 3500 & major status
CS 5490	Network Security	3	Fall	CS 4480 or instructor consent
CS 5630	Visualization for Data Science	3	Fall	CS 3500 & major status
CS 5640	Introduction to Digital Image Processing	3	Fall	CS 2420, Math 2270 or 2250 & major status
CS 5710	Digital VLSI Design	4	Fall	CS 3700 & major status
DS 2500	Data Wrangling	3	Spring	CS 1410 or CS 1420
CS 3011	Industry Forum	1	Spring	CS 2420 & major status
CS 3200	Scientific Computing	3	Spring	Math 2270 & major status
CS 3390	Ethics in Data Science	3	Spring	CS 2420 & major status
CS 3700	Digital System Design	4	Spring	PHYS 2220 & major status
CS 4300	Artificial Intelligence	3	Spring	CS 3505, CS 4150, CS 3130 & major status
CS 4440	Computer Security	3	Spring	CS 3500, CS 3810 & major status
CS 4470	Compilers	3	(every other) Spring	CS 3100, CS 4400 & major status
CS 4480	Computer Networks	3	Spring	CS 3500 & major status
CS 5100	Theory of Computation	3	Spring	CS 3100, CS 4150 & major status
CS 5140	Data Mining	3	Spring	CS 3500, CS 3190 & major status
CS 5460	Operating Systems	3	Spring	CS 4400 & major status
CS 5530	Database Systems	3	Spring	CS 3500 & major status
CS 5610	Interactive Comp Graph	3	Spring	CS 3500, Math 2270 or 2250 & major status
CS 5720	Analog IC Design	3	Spring	ECE 3110 & major status
CS 5750	Syn/Verif Asyn VLSI Sys	3	Spring	CS 3700 & major status
CS 5780	Embedded System Design	4	Spring	CS 3810 or CS 4400 & major status
CS 4010	CS Internship	1-3	Fall/Spring/Summer	CS 3505 & director approval
CS 4530	Mobile Application Programming	3	Varies	CS 3505 & major status
CS 5110	Rigorous System Design	3	Varies	CS 3100 & CS 3500 & CS 4150
CS 5320	Computer Vision	3	Varies	CS 3505, Math 2270 or 2250 & major status
CS 5350	Machine Learning	3	Fall/Spring	CS 3500 & CS 3190
CS 5635	Visualization for Scientific Data	3	Varies	CS 3500 & Math 1220
CS 5740	Computer Design Digital Circuits	3	Varies	CS 3700 & major status
CS 5745	Testing & Verification Digital Circuits	3	Varies	CS 2420 & major status
CS 5789	Embedded Systems & Kinetic Art	3	Varies	CS 2420 & major status

* Students should have four or fewer CS electives/required courses left when signing up for this course and should be graduating during the following semester.

- **Raw data in bullet point form (at least 20 notes per participant).**
    - Hasn't used degree planner
    - Uses degree audit for Computer Science to see what classes are needed to complete degree
    - Participant doesn't know if they've declared their major yet
    - Doesn't care about how many credit hours a course is
    - Top of degree planner is not important, participant scrolls down to see what courses are red and still need to be completed
    - Uses google docs because they like having it all online so uses google docs over paper
    - When writing down classes, participant starts with the requirement
    - Writes down the credit hours
        - To see how much work she puts on herself

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        - To fulfill her credit hour requirements for financial aid
    - Likes to click on classes to see the description but wished it told availability of courses
    - Likes to plan all future semesters at once
    - Writes the electives and what level they are (3000+)
    - After writing the classes she needs, she then splits it into the following 3 semesters
    - Automatically moves the senior classes into senior year
    - Goes to the school of computing webpage to look at the handbook and check the requirements for graduating with specific certificates
    - Checks course offerings on the school of computing website
    - Heard that CS5530 sounds important so she puts it as one of the electives
    - Parallel Programming “seems” important but student is not interested – but chose to take it since it seems important
    - Also says CS4540 is important
    - Wants to know the difficulty of classes or some better estimate of time consumption
    - I will make a counselor appointment in order to figure out how easy classes are because a balanced workload is important to me
    - Would love a hypothetical *ratemycourse.com*
    - Picks classes not because she is interested but because it is important in her future career
    - Looks at the general catalog to search the courses and reads descriptions + classes
    - Two most important criteria for class: importance in future + easier class
    - Classes that have unknown or scary words in their descriptions are avoided
    - Already finished her web development classes
    - Lists out certificates that they’re going to go for so they know what they will be graduating with and writes the courses required to complete each certificate under them.
    - Checks if only one class away from qualifying for a certificate – then may take a different course to finish the certificate
    - Puts down computer systems class because she is 1 class away from finishing a certificate
    - Looks at the prerequisites for a class
    - Doesn’t like hardware -> doesn’t want to take the class
    - Doesn’t take a class because it sounds boring
    - A big thing that goes into her decision-making: if she knows someone who has taken a class she asks them how it went
    - Specifically adds classes that sound interesting that they want to take for their own benefit.

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- Wants to decide when to take courses and Highlights the classes depending on when they are offered : fall and spring classes each with their own color, blank if it is offered in both semesters or if it varies
- Student searches for class every semester but has no idea when it's offered and hasn't found it.
- Likes to compare plans for different degrees after plans are completed
- Adds notes to google doc planning based on information gained from other people about class difficultly
- Doesn't want difficult classes in the same semester
- CS classes aren't offered over summer so doesn't plan on summer classes
- Participant Looks over planner and decides she has enough certificates so she may not go after another because the required classes don't seem fun
- Wants to be a full time student for financial aid but doesn't know the exact benefits that is giving her
- Participant finished her plans then decided that it feels like something was missing, so goes back to her degree audit and finds that she almost missed a requirement.
- Participant adds class to a semester saying that it doesn't really matter when she takes it because gen-ed classes are generally not that difficult
- Participant knows that each semester has some classes that can move to other semesters if needed and may move classes based on other people's advice she receives in the future.

- **Data that would likely not have come out of a non-contextual interview:**
  - **Participant unaware of own practices:** Participant notes that sometimes she schedules an appointment with a counselor so they can tell her which classes people really struggle in. She only mentioned this because she was looking at classes and couldn't tell if a certain one was difficult or not so this wouldn't have come from a non contextual interview.
  - **Contextual detail:** The participant noted during the interview that she stayed away from classes that involved hardware. This wouldn't have come up in a traditional interview because she only noticed this/brought it up after looking through a bunch of courses in the catalog.

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Milestone 3: Writeup for Remaining Inquiries

    - **Contextual detail:** Participant thinks that parallel programming “seems important,” but she isn’t interested in it. That probably wouldn’t have come out of a non-contextual interview because it never made it onto her final schedule.

Example 1: Successful CI Technique

- **Technique:** Getting concrete data
- **What happened in the inquiry:** The participant was asked her top criteria for choosing classes. We were able to discover that her two most important criteria were the relevance in her career, as well as the difficulty of the class.
- **Explanation of why this is a successful use of the technique**: For the degree planner we want to create, it is essential to figure out how students prioritize their classes. Knowing that difficulty and career readiness are the most important criteria can help us understand user’s decisions about what classes to take. This understanding allows us to better prioritize pertinent information about classes so they can easily make an informed choice. We also learned there was a deeper level to the participant’s class difficulty priorities, they want to balance each semester with easy and hard classes so it isn’t overwhelming or too easy.

Example 2: Successful CI Technique

- **Technique:** Checking/clarifying an interpretation
- **What happened in the inquiry:** Towards the end of the inquiry, the participant mentioned that she sometimes scheduled appointments with SoC (School of Computing) advisors to ask them how difficult certain courses were. The interviewer asked how this stacked up against other issues the participant had with the current planning system. The participant responded that this was her main complaint/pain point in the process of planning her future semesters.

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Milestone 3: Writeup for Remaining Inquiries

- **Explanation of why this is a successful use of the technique**: By clarifying with the participant, we were able to identify what was in their eyes the largest hurdle in successfully planning a good schedule: there is no way of really checking how difficult a course might be without scheduling an appointment with an advisor.

Example 3: Unsuccessful CI Technique

- **Technique:** Misses opportunity to get concrete data
- **What happened in the inquiry:** After color coding the classes based off of semester taken, she copied and pasted the classes in her remaining semesters. However, it is uncertain why she decided specific spring classes for her next semester opposed to her senior semester.
- **Explanation of why this is not a successful use of the technique, and what should have happened instead**: There may have been reasoning behind her choosing those specific spring classes for her junior year instead of senior year, apart from the fact that those classes are only offered in spring semester. We should have asked why she chose those classes for next semester as opposed to senior year spring semester.

2b. Inquiry [3]:

- **Inquiry conductor:** Cannon
- **Inquiry observer/note-taker:** Wyatt
- **What was your focus for the inquiry?** Examining course planning by a freshman who is less experienced with the process
- **Participant:** Skyler Rudd
- **What makes them relevant to your problem?** He is a freshman at the University of Utah. Currently, he is undeclared but is interested in the Music Education major.

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Milestone 3: Writeup for Remaining Inquiries

- **What tasks did you observe the participant doing (or explain retrospectively)?**
    - We observed the participant planning the next semester of his undergrad. He went through the process of finding out what courses he needed to take, and what ones he wanted to try out since he isn't exactly sure what he wants to do.
- **What artifacts did you observe/collect? Include images/descriptions.**
    - **Artifact #1:** The Music Education degree requirements.

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Milestone 3: Writeup for Remaining Inquiries

SCHOOL OF MUSIC
COLLEGE OF FINE ARTS | THE UNIVERSITY OF UTAH

Bachelor of Music: Music Education - Instrumental

Degree Requirements

Revised December 30, 2019

Private Lessons (18 Credit Hours)	Credit Hours
MUSC 199x Private Lessons I Music Major	6
MUSC 299x Private Lessons II Music Major	6
MUSC 399x Private Lessons III Music Major	6
Music Theory (19 Credit Hours)	
MUSC 1110* Music Theory I	3
MUSC 1120 Music Theory II	3
MUSC 1130 Musicianship I	1
MUSC 1140 Musicianship II	1
MUSC 2110 Music Theory III	3
MUSC 2130 Musicianship III	1
MUSC 2140 Musicianship IV	1
MUSC 3550 20th Century Techniques	3
MUSC 3560 Form & Analysis	3
Music History (6 Credit Hours)	
MUSC 3645 Music History II	3
MUSC 3655 Music History III	3
Conducting (4 Credit Hours)	
MUSC 2350 Conducting	2
MUSC 3385 Ensemble Conducting	2
Additional Music Requirements	
Senior Recital	0
Ensemble (7 Semesters, 7 Credit Hours)	
Large Ensemble: *7 Semesters Total* MUSC 4440, MUSC 4445, MUSC 4450, MUSC 4460, MUSC 4465, MUSC 4470, MUSC 4472	7
Keyboard	
Piano Proficiency – MUSC 1150, MUSC 1160, MUSC 2150, MUSC 2160**	4

Music Education Courses (36 Credit Hours)	Credit Hours
MUSC 1700 Introduction to Music Education	3
MUSC 1710 Brass Instrument Study I & Lab	1
MUSC 1712 Brass Instrument Study II & Lab	1
MUSC 1740 Percussion Instrument Study & Lab	1
MUSC 1750 String Instrument Study I & Lab	1
MUSC 1752 String Instrument Study II & Lab	1
MUSC 1770 Woodwind Instrument Study I & Lab	1
MUSC 1772 Woodwind Instrument Study II & Lab	1
MUSC 1895 Voice Study for Instrumental Music Education Majors	1
MUSC 3720 General Music Methods	3
MUSC 3750 Theoretical Foundations of Music Education	3
MUSC 3760 Choral Rehearsal Techniques	2
MUSC 3770 Instrumental Rehearsal Techniques	2
MUSC 4710 Instrumental Music Methods	3
MUSC 4785 Music Teaching Seminar	2
MUSC 4795 Instrumental Student Teaching	10
College of Education Requirements (9 Credit Hours)	
Ethnic Studies: *Select One* ETHNC 2550***, ETHNC 2560****, ETHNC 2570***, ETHNC 2580*****, ETHNC 2590*** ****Fulfills Diversity (DV) Requirement and Humanities (HF)* *****Fulfills Diversity (DV) only* ******Fulfills Diversity (DV) and Social and Behavioral Science (BF)* *(Please see Undergraduate Bulletin)*	3
Select one of the following courses: SP ED 2011/5011 Inclusive Elementary Classrooms or SP ED 5012 Inclusive Secondary Classrooms or SP ED 2010/5010 Human Exceptionality (DV)	3
ECS 2150 Introduction to Multicultural Education (DV)	3

Additional General Education Requirements and Bachelor's Degree Requirements (36 credit hours) *See Undergraduate Bulletin for all approved Graduation Requirements*			
Humanities Intellectual Exploration (HF) *Two Courses Required*	6	American Institutions (AI) Choose one of the following: HIST 1700, ECON, 1740, HONOR 2212, POL S 1100	3
Physical/Life Science & Applied Science Intellectual Exploration (choose either 2 SF or 1 SF and 1 AS) *Two Courses Required*	6	Quantitative Reasoning (QA) MATH 1030, MATH 1050, MATH 1090	3
Social & Behavioral Science Intellectual Exploration (BF) *Two Courses Required*	6	Upper-division Communication/Writing (CW) MUSC 4010 or other approved course	3
Lower Division Writing (WR) WRTG 2010, HONOR 2211	3	Diversity (DV) See College of Education Requirements above for required class.	3
International Requirement (IR) MUSC 3600 or other approved IR course	3		

TOTAL: 133 Credit Hours

***First-year Theory Rudiments Diagnostic Assessment:** Every student enrolling in the Fall Semester of Music Theory I (MUSC 1110) must take the First-year Theory Rudiments Diagnostic Assessment, which is offered on-line for Fall Semester. Students who do not pass the Assessment must enroll in Elements of Music on-line (MUSC 1100), which they will take as a co-requisite with Music Theory I. Students who demonstrate significant deficiencies may be required to sing in a choral ensemble for two semesters in addition to taking MUSC 1100.

****Piano Proficiency Requirement:** All music students must pass the Piano Proficiency Examination. The exam is administered at the beginning of each semester. All Students should be enrolled for Keyboard (MUSC 1150, 1160, 2150, and 2160) each semester until this requirement is fulfilled or until the piano proficiency exam is passed. Private piano study may not be substituted for Class Piano or the Piano Proficiency Exam.

Private Lessons: All students must submit a completed *Private Lesson Application* online at the beginning of each semester of study. Students must meet with their major advisor to plan the semester's coursework and obtain the advisor's signature. Forms are due no later than the third day of classes in any given semester. Late forms will NOT be accepted. Special fee required to cover costs associated with providing individual instruction. https://music.utah.edu/students/forms-applications.php

Performance Transfer Credits: All credit in major conducted ensembles and private instruction will be accepted by the University of Utah, however, The School of Music requires that a minimum of one half of the degree requirement for performing ensembles and one half of the degree requirement for vocal/instrumental private study for all music degrees be taken in residence at the University of Utah. Auditions are required for skill-level placement for both performing ensembles and private study.

Minimum Grade: A grade of C or better is required for all music courses and Liberal Arts Electives. Grades of C- (minus) or below in Bachelor of Music and Bachelor of Arts in Music degree programs will not satisfy this requirement.

Program Fees: All students will be charged an extra $150 per semester for enrolling in the School of Music.

- **Artifact #2:** His degree audit for Music Education.

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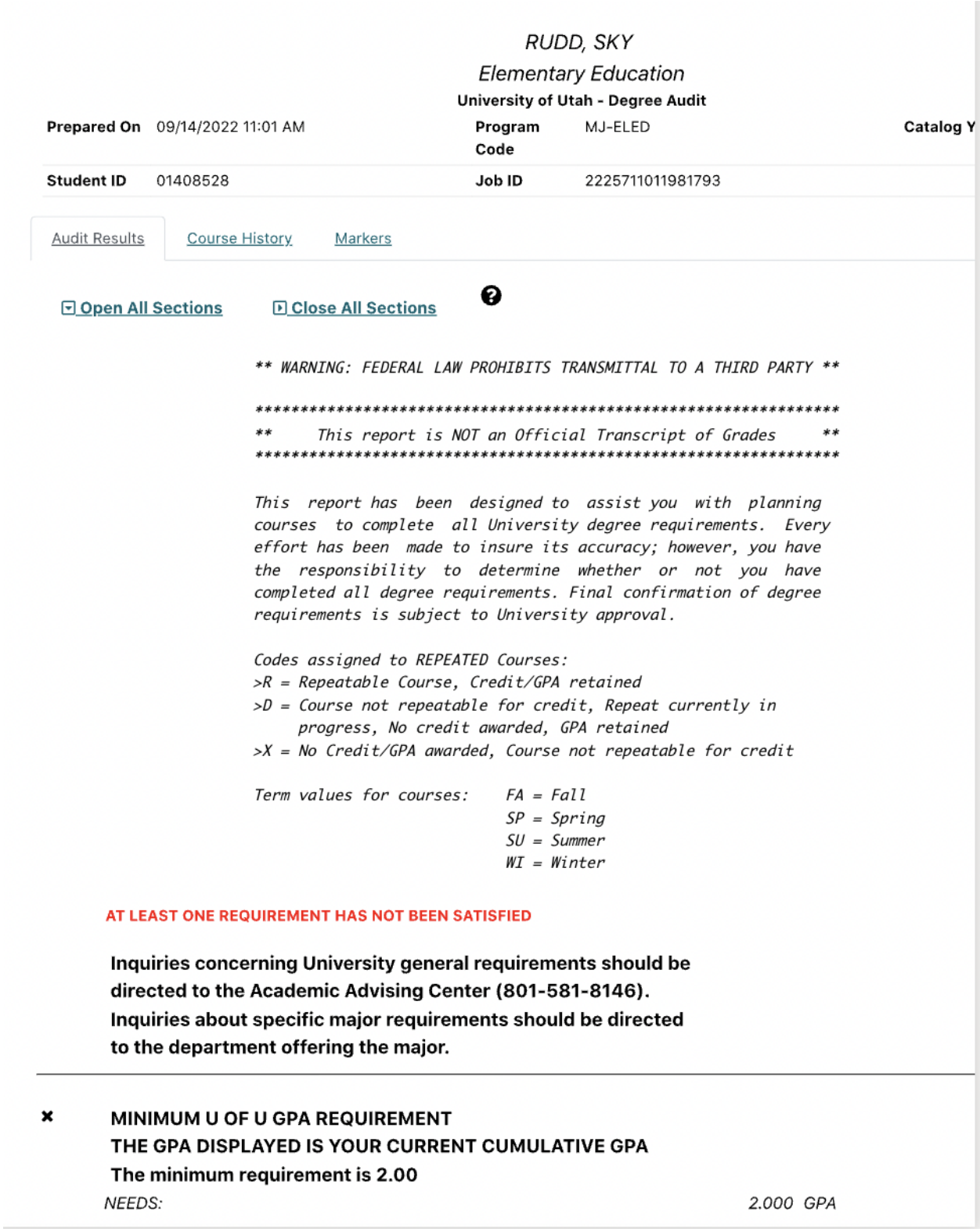
Milestone 3: Writeup for Remaining Inquiries



RUDD, SKY

Elementary Education

University of Utah - Degree Audit

Prepared On	09/14/2022 11:01 AM	**Program Code**	MJ-ELED	**Catalog Y**
Student ID	01408528	**Job ID**	2225711011981793	

Audit Results | Course History | Markers

Open All Sections | Close All Sections

*** WARNING: FEDERAL LAW PROHIBITS TRANSMITTAL TO A THIRD PARTY ***

****

*** This report is NOT an Official Transcript of Grades ***

****

This report has been designed to assist you with planning courses to complete all University degree requirements. Every effort has been made to insure its accuracy; however, you have the responsibility to determine whether or not you have completed all degree requirements. Final confirmation of degree requirements is subject to University approval.

Codes assigned to REPEATED Courses:
>R = Repeatable Course, Credit/GPA retained
>D = Course not repeatable for credit, Repeat currently in progress, No credit awarded, GPA retained
>X = No Credit/GPA awarded, Course not repeatable for credit

Term values for courses: *FA = Fall*
SP = Spring
SU = Summer
WI = Winter

AT LEAST ONE REQUIREMENT HAS NOT BEEN SATISFIED

Inquiries concerning University general requirements should be directed to the Academic Advising Center (801-581-8146). Inquiries about specific major requirements should be directed to the department offering the major.

✖ **MINIMUM U OF U GPA REQUIREMENT**
THE GPA DISPLAYED IS YOUR CURRENT CUMULATIVE GPA
The minimum requirement is 2.00
NEEDS: *2.000 GPA*

- **Raw data in bullet point form (at least 20 notes per participant).**

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Milestone 3: Writeup for Remaining Inquiries

- Participant pulls up their course catalog and scrolls alphabetically until they reach M for music
- Participant has several classes that they've identified through peer reviews as classes they want to take.
- Participant finds records of conversations with peers to verify recommendations and find the specific professors that their peers enjoyed.
- In addition to reviews from friends, Participant uses rate my professor for a second opinion.
- Participant states that the professor teaching the class is very important to them.
- Participant confused when attempting to find out what professor would be teaching each class on the course catalog
- Participant surprised to find that some classes change professors each semester.
- Participant wanted to find the U of u music education requirements – difficult to find on google (participant first found Kentucky University Music Education page)
- Looks at courses required – trying to decide what to take based on their interest in each option
- Participant not certain of what specific courses are required for their degree
- Participant plans what classes to take in his head instead of writing it down
- Participant finds it unclear what courses are for credit vs not for credit and has trouble finding the answer.
- Participant has difficulty finding the correct course to be able to add it to their upcoming schedule even after deciding on the course they want to take
- Participant decided that they like painting and are going to look for a painting class next
- Student needs at least 12 credit hours for scholarship but unsure about other scholarship requirements
- Participant Continues to use rate my professor and read other student feedback
- Student confused about the requirements for honors and if specific classes would meet those requirements
- Light on homework is important for participant as they have specific study habits they like to stick to
- Participant Wants to focus on music and has too many other courses to be able to focus on it as much as they want
- Previous math class too hard, had to drop and now wants to take an easier math course
- Participant Prefers classes where they don't have to do independent study outside of assigned homework.
- Participant gets to 12 credit hours and decides that they are finished but may add in other classes
- After finishing their schedule participant wants to add in cool or interesting classes in the future if they hear about them from peers
- May take more than 12 credits based on what they are interested in

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Milestone 3: Writeup for Remaining Inquiries

    - Participant doesn't like to navigate between multiple websites for planning their degree
    - What does participant think of a software solution for this ?
        - All on one page would be good so doesn't have to use more websites
        - Doesn't like having to go through classes then add them on a separate page

- **Data that would likely not have come out of a non-contextual interview:**
    - **Participant unaware of own practices:** Participant not sure of how to differentiate between for credit and not for credit courses.
    - **Contextual detail:** Participant initially added a couple of not for credit courses before realizing his mistake

Example 1: Successful CI Technique

- **Technique:** Checking/clarifying an interpretation
- **What happened in the inquiry:** Student stated they want to take classes that interest them in addition to required courses. Interviewer clarified by asking if it is important to them to take classes they can have fun in so they aren't too stressed.
- **Explanation of why this is a successful use of the technique**: Interviewer was able to correctly interpret why they take certain classes.

Example 2: Successful CI Technique

- **Technique:** Getting concrete data
- **What happened in the inquiry:** Participant pulled up the requirements for Music Education. Interviewer asked if they could send that information over.
- **Explanation of why this is a successful use of the technique**: Interviewer was able to get concrete data from the participant. Interviewer simply had to ask for the information.

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Milestone 3: Writeup for Remaining Inquiries

Example 3: Unsuccessful CI Technique

- **Technique:** Guiding participant
- **What happened in the inquiry:** Participant added a couple of not for credit courses during their planning. Interviewer told them that they probably wanted to take for credit courses.
- **Explanation of why this is not a successful use of the technique, and what should have happened instead**: Interviewer shouldn't have guided participant and instead allowed them to figure it out themselves.

Example 4: Unsuccessful CI Technique

- **Technique:** Failing to get concrete data
- **What happened in the inquiry:** Participant pulled up degree audit. Interviewer failed to ask participant to send this over.
- **Explanation of why this is not a successful use of the technique, and what should have happened instead**: Interviewer should have asked the participant to send this over as soon as the interview was done.

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Milestone 3: Writeup for Remaining Inquiries

3. Revising Problem Description

[Edit your Problem Description from Milestone 1 in a different color. Do not put any text here.]

END OF MILESTONE 3

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Milestone 4: Affinity Diagram, Task Analysis, and Ideation

1. Interpretation Snapshot

- Haydn:
    - Users are having trouble planning out the future semesters because
        - They are unaware of their required classes
        - They don’t know if classes are offered in the fall/spring
    - Users have a preference for classes, such as
        - The easiness of a class
        - The importance of the class in their career
        - The previous evaluations of a professor
- John:
    - The user goal is to schedule the rest of their semesters.
    - It can be difficult for users to determine how strenuous a course will be.
    - It's not always clear when courses will be offered (fall vs spring), which makes it impossible to plan out a futureproof schedule.
- Cannon:
    - New students have a more difficult time planning courses
    - Tools to plan out which courses to take can be confusing
    - Users would prefer to have everything in one place
- Wyatt

Milestone 4: Affinity Diagram, Task Analysis, and Ideation

- Users vary in their concerns, some want to plan the rest of their degree and others only want to plan the next semester
- Users have concerns over the cost of courses and scholarship eligibility
- Users want to take courses that will benefit them in the future, have a good workload for them and appeal to their interests
- Peer reviews of classes are very important for students

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Milestone 4: Affinity Diagram, Task Analysis, and Ideation

2. Affinity Diagram

https://miro.com/app/board/uXjVPSPnSuQ=/?share_link_id=683819660167

[affinity diagram image, exported from miro]

- My Priorities
    - I prioritize Difficulty
        - I prioritize professor
            - U1 - If in between 2 classes, will choose the one with better professor
            - U3 - Participant states that the professor teaching the class is very important to them.
        - I avoid super difficult semesters
            - U3 - Participant Wants to focus on music and has too many other courses to be able to focus on it as much as they want
            - U2 - Avoids stacking multiple hard classes in one semester
            - U1 - Philosophy major, taking 3 philosophy classes is too much
            - U1 - Wants to have a balance of hard and easy classes
        - Knowing difficulty of classes is important to me
            - U2 - Criteria for courses: easy, important, and/or useful
            - U3 - Previous math class too hard, had to drop and now wants to take an easier math course
            - U2 - Makes counselor appt. to ask how difficult classes are
            - U3 - Participant Prefers classes where they don't have to do independent study outside of assigned homework.
    - I Prioritize my interests and future
        - I prioritize Credit hours per semester
            - U1 - Looking at unfulfilled hours, dividing by number of semesters to find out the amount of credits per semester
            - U1 - Parents won't pay for more than 4 years, so he will not take more than 4 years
            - U3 - Student needs at least 12 credit hours for scholarship but unsure about other scholarship requirements
        - I like fun classes
            - U3 -After finishing their schedule participant wants to add in cool or interesting classes in the future if they hear about them from peers
            - U1 -Picks classes cause they are "sick"

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Milestone 4: Affinity Diagram, Task Analysis, and Ideation

                - U1 - Doesn't care what he takes as long as they are required and fun
                - U3 -Participant May take more than 12 credits based on what they are interested in
                - U1 - He makes sure they're interesting classes
                - U3 - Participant decided that they like painting and are going to look for a painting class next
                - U3 - Looks at courses required – trying to decide what to take based on their interest in each option
            - I prioritize Gen-Eds
                - U1 - Done with gen-eds, so needs to take required courses
                - U1 - Happy that he did gen-eds first
            - I prioritize useful classes
                - U2 - Criteria for courses: easy, important, and/or useful
                - U2 - Writes down the certificates they want to get
                - U1 - Rather take wanted classes than classes that fit schedule
                - U1 - Has done pre-reqs for all classes
                - U2 - Chooses classes that sound important/useful for later
- My Planning
    - How I use tools to plan classes
        - I use the course catalog
            - U3 - Participant pulls up their course catalog and scrolls alphabetically until they reach M for music
            - U1 - Likes to look at classes and pick them day of
            - U2 - Checks pre-reqs on U of U general catalog
        - I get outside information & references about classes
            - U2 - Asks other people about their experience in certain classes
            - U3 - Participant finds records of conversations with peers to verify recommendations and find the specific professors that their peers enjoyed.
            - U3 - Participant has several classes that they've identified through peer reviews as classes they want to take.
            - U3 - In addition to reviews from friends, Participant uses rate my professor for a second opinion.
            - U3 - Participant Continues to use rate my professor and read other student feedback
            - U1 - Participant uses rate my professor to help determine if he wants to take a class or not
        - I use the degree planner
            - U2 - Starts with a degree audit
            - U1 - Goes to degree audit first

Milestone 4: Affinity Diagram, Task Analysis, and Ideation

- U1 - Participant clicks on classes to get more information on them.
- I write out the classes I want to take
  - U1 - Writes down on paper the classes he wants
  - U2 - Uses a google docs to make notes/schedule of classes

- I plan at different times
  - I plan last minute
    - U3 - Participant plans what classes to take in his head instead of writing it down
    - U3 - Participant gets to 12 credit hours and decides that they are finished but may add in other classes
    - U1 - Plans semester when able to register
  - I plan ahead of time
    - U2 - Thinks you should plan semesters ahead of time
    - U2 - Checks handbook for fall/spring offerings
- I find planning classes complicated
  - Planning classes is difficult for me
    - U3 - Participant doesn't like to navigate between multiple websites for planning their degree
    - U1 - Doesn’t want to be locked in when registering
    - U3 - Participant has difficulty finding the correct course to be able to add it to their upcoming schedule even after deciding on the course they want to take
    - U2 - Hasn't used degree planner
  - I am confused about requirements
    - U3 - Student confused about the requirements for honors and if specific classes would meet those requirements
    - U3 - Participant not certain of what specific courses are required for their degree
    - U2 - Some courses don't say when they are offered
    - U3 - Participant wanted to find the U of u music education requirements – difficult to find on google (participant first found Kentucky University Music Education page)
    - U3 - Participant finds it unclear what courses are for credit vs not for credit and has trouble finding the answer.
  - I am confused about class contents
    - U3 - Participant confused when attempting to find out what professor would be teaching each class on the course catalog
    - U3 - Participant surprised to find that some classes change professors each semester.
    - U1 - Says an interesting/fun scale would be a good idea

Milestone 4: Affinity Diagram, Task Analysis, and Ideation

- **Pink Note 1:** I Prioritize Difficulty
    - **Explanation 1:** In every contextual interview we did, the participants were concerned about the difficulty of their classes. This information was often gathered by participants through several different sources and then used to make decisions on their schedules. When determining the difficulty of a class, it was clear to us that both the content of the course and the professor teaching it were important factors.
- **Pink Note 2:** I Prioritize my interests and future
    - **Explanation 2:** Through these notes, we found the main deciding factors students use when deciding an upcoming semester's schedule. Students need knowledge of the credit hours of each course and how they relate to scholarships/financial aid and good course descriptions. In our contextual inquiries we found that good descriptions provided participants with something exciting to them personally and gave them some idea of how the class content could be useful to them in their future career.
- **Reflection**:
    - **What was one challenge or thing that felt confusing or uncomfortable?** It felt really uncomfortable to change other people's blue notes when adding to a group. Especially with the online context of the activity it was hard to tell when someone was still adding items to their group or if they had started working on another already. This meant that sometimes groups were taken in two conflicting directions and resolving those conflicts caused some confusion and cross talk.
    - **What was a success or benefit?** Sorting our insights in this way helped highlight a lot of the areas where there were significant similarities between our participants and helped make those overarching ideas easier to spot. It also highlighted some spaces where our participants were significantly different and

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Milestone 4: Affinity Diagram, Task Analysis, and Ideation

any solution we design for this problem will have to account for those areas and allow some extra flexibility there if we want to meet the needs of users.

Milestone 4: Affinity Diagram, Task Analysis, and Ideation

3. Task Analysis

6 Tasks:

1. Users want to know what the course content is
2. Users want to achieve a certain amount of credit hours
3. Users want to know how difficult a class is
4. Users want peer reviews of courses
5. Users plan schedules at different times
6. Users want to fulfill degree requirements

Requirements check:

- **At least two tasks that are directly supported by the systems your users currently use**: 1 and 2
- **At least two that are NOT directly supported by the systems your users currently use**: 3 and 4
- **At least one task that is easy**: 2
- **At least one task that is medium or hard**: 3
- **At least two tasks that illustrate something important about your problem that was not evident when you started this project:** 2

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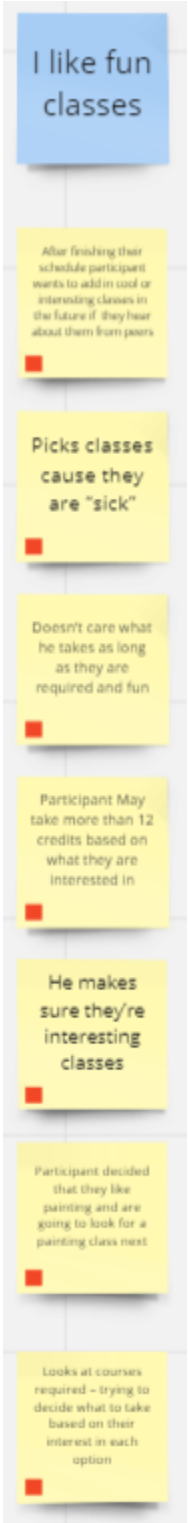
Milestone 4: Affinity Diagram, Task Analysis, and Ideation

Task #1 - Users want to know course content



- currently supported directly
- **Difficulty:** easy
- **Description:** Users want to know what classes are about and if the course content aligns with their interests. They look for a description of the class and will use descriptors such as “fun” or “boring” after reading these descriptions and that later becomes a factor in their decision to take the course or not.
- **Specific example:** Ella needs to fill a general education requirement course and has pulled up the course catalog, she looks at the description of the course and sees that it talks about vectors. She recently took physics and knows enough about vectors to avoid taking that class.
- **Supporting data:** participants consistently referred to classes as “interesting” or “sick” when describing why they wanted to take the course.
- **What is important about this task:** This task is part of the participant’s decision making process when deciding what courses to take and was mentioned by all three contextual inquiry participants that we interviewed. Each of the participants put a different weight on how much their interest in the course factored into deciding if they should take the class or not, but they sought out the information before making their decision.

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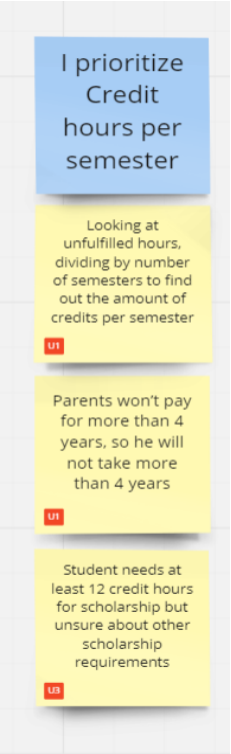
Milestone 4: Affinity Diagram, Task Analysis, and Ideation

Task #2 - Users want to have a certain amount of credits



- currently supported directly
- **Difficulty:** easy
- **Description:** Users have an ideal number of credit hours that they want to take each semester that varies based on their individual circumstances. Filling this number of credit hours each semester is consistently more important than other factors for users and is a clear goal they have when planning.
- **Specific example:** Dave has a scholarship that requires that he take 12 credit hours of classes each semester, Dave also wants to graduate in 4 years total. He's done some basic math to figure out that he needs one semester with 14 credit hours and the rest of his semesters have to have at least 12 credit hours. This semester he's decided he wants to do the 14 credit hour course load so he doesn't have to worry about it in the future.
- **Supporting data:** Participants consistently stated that they wanted a specific number of credit hours to receive financial aid or graduate by a specific time.
- **What is important about this task:** Users know in general how many credit hours they want to take and are able to find that information in the course descriptions. What wasn't obvious at the start were the reasons why credit hours are important to users, all of the concerns were financial rather than about the amount of time they would spend on classes, this shows a significant gap between the intended purpose of credit hours and their real world use cases. A more generic goal would not be able to communicate the make or break importance that users place on having enough credit hours.

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Task #3 - Users want to know how difficult a class is

- not currently supported directly
- **Difficulty:** hard
- **Description:** Determining the difficulty of a course when deciding what classes the user wants to take. The user wants to take a course load with a specific difficulty and it is an important factor in making a final decision on what classes they decide to take.

- **Specific example:** class registration just opened up for Sally and she needs to take a really difficult course this semester to fulfill the requirements of her degree. So she wants to add other classes to her schedule that are easier to make sure she is not overwhelmed with too much work this semester.
- **Supporting data:** Every participant had some concerns about the difficulty of their classes, some participants wanted classes that were easy so they had more time to independently explore their interests and others wanted a more balanced course load to avoid being overwhelmed and having too much work.
- **What is important about this task:** This task is somewhat similar to the current system of courses having a “credit hours” description where the number of credit hours on a course is supposed to predict how many hours a student is likely to spend on the class per week. But in practice the credit hours system is not used by our Students to

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determine class difficulty because each classes' difficulty depends not just on the content of the course but also on the Instructor of the class. Additionally even if the time spent on a class is equal some classes like gen-eds were simply less stressful and difficult even if the time requirements were similar. In our final affinity diagram credit hours were not often related to the overall difficulty of a semester and the main concerns about credit hours related to financial aid rather than time spent on the class.

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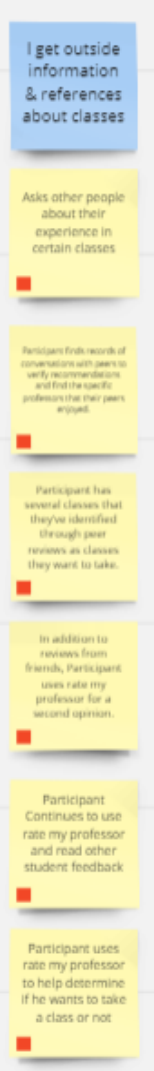
Task #4 - Users want peer reviews of courses



- not currently supported directly
- **Difficulty:** medium
- **Description:** Students want to get peer reviews of classes and information about the classes from sources that are not just the professor of the class. This information helps them decide if the class would be a good fit for them or if they should avoid it. It's also important to students that the information be about both the professor and the content of the course, not just one or the other.
- **Specific example:** Andre wants to decide between three class options to fulfill a requirement for his degree, he reads the course descriptions and forms some initial opinions but wants a second perspective. Andre wants to find a class that's light on homework but still has difficult concepts and offers a lot of opportunities for independent study. He also wants to make sure that the professor will be a good fit for him so that he isn't left behind or bored in lectures. He knows that other students have been able to give him some perspective on this with their reviews of classes and is seeking out peer reviews of each of these classes.
- **Supporting data:** Our users wanted multiple perspectives on classes to take and it was a clear step in their planning process where they went to a separate website to find some of these reviews. But often the number of reviews was very low and specific only to a professor rather than a professor and a specific class.

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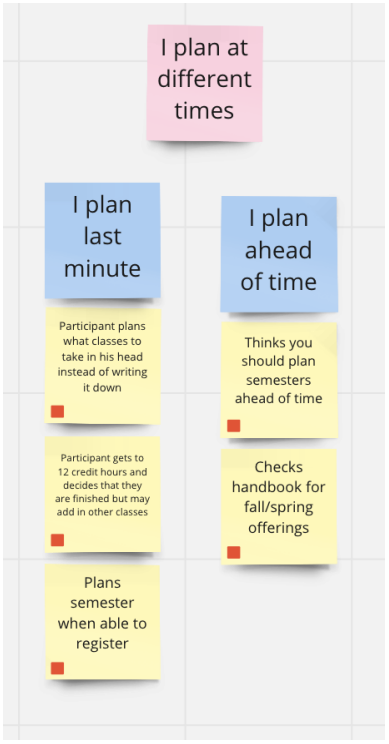
- **What is important about this task:** This task is supported by several third party websites but it was consistent among participants that this was insufficient for them and they used other options to find peer reviews of classes such as asking their friends and writing their feedback down to prepare for planning what classes to take. When those methods failed the users simply left the choice up to chance and hoped that they made a good choice but were ultimately disappointed in the process.

Milestone 4: Affinity Diagram, Task Analysis, and Ideation

Task #5 - Users plan schedules at different times



- Currently supported directly
- **Difficulty:** Medium
- **Description:** Students decide when to plan their semesters at different times. Some plan semesters ahead of time, and others plan semesters right when they are able to register.
- **Specific example:** Darius wants to be ahead of the curve and guarantee a spot for his classes, while also knowing his schedule way ahead of time. That way, he can begin planning his activities/work during the next semester.
- **Supporting data:** Our users planned their classes at different times. One plans semester right when they are able to register. Another planned all the rest of the semesters already using the fall/spring handbook.
- **What is important about this task:** It's important for students to plan semesters ahead of time, one of our participants said that is reduces the stress of finding classes last minute.

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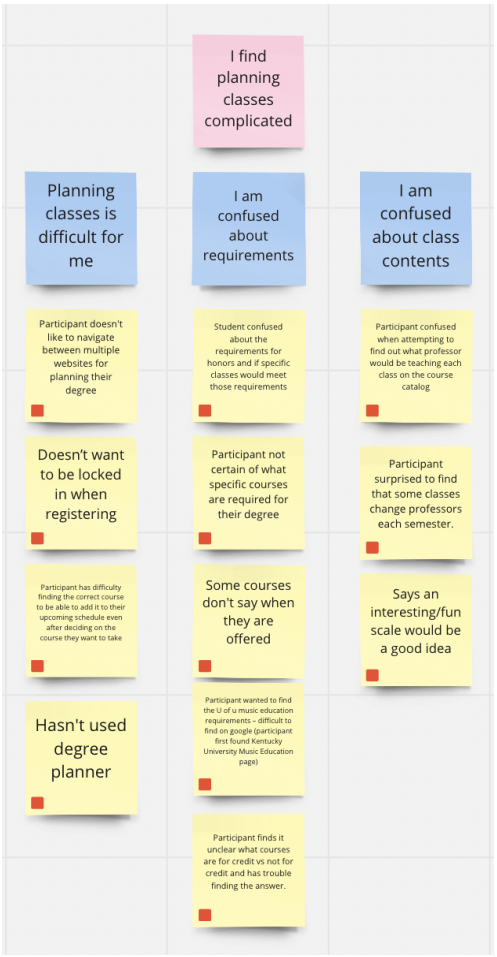
Task #6 - Users want to fulfill degree requirements

- currently supported directly
- **Difficulty:** hard
- **Description:** Planning classes without knowing what exactly needs to be taken. The user wants to make sure they fulfill requirements and also take classes they enjoy.
- **Specific example:** The class schedule just came out and Sarah wants to get on top of things. Sarah doesn't know exactly what she needs to take at the moment, however, and doesn't want to have a tough schedule.
- **Supporting data:** The image on the right supports this task. Students are often confused about all of the resources they need to use. They are also confused about the contents of a class and how difficult it is.



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4. Reflection

- These ideas fully captured the nuance of a task or another aspect of the problem:
    - John: It's not always clear when courses will be offered (fall vs spring), which makes it impossible to plan out a futureproof schedule.
    - Wyatt: Users vary in their concerns, some want to know how difficult a class is and some want to know what days of the week that class is offered.
- These ideas had some good points, but we found additional nuances or insights after doing the rest of the analysis:
    - Haydn: Users are having trouble planning out the future semesters due to lack of information
    - Cannon: Tools to plan out which courses to take can be confusing
- These ideas were contradicted by our data:
    - John: The user goal is to schedule the remainder of their degree. Sometimes they’re only worried about scheduling the next semester

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5. Ideation

1. User Scales
    a. There will be scales for different categories attached to course descriptions
    b. Users who have taken a class will be able to rate the class out of 5 or maybe 10 in the following categories:
        i. Fun
        ii. Interesting
        iii. Useful
        iv. Difficult
    c. Users who are looking at taking a class will be able to see the average of all students' input on these categories
2. Build Course Catalog into Planner
    a. For our planner/roadmap that we will create, we will implement the course catalog into it
    b. Students who are planning classes will be able to see the course catalog in the same window
    c. This will help inform their decision on what classes to take
3. Implement Rate My Professor-esque system into U of U class catalog
    a. Reviews under the course description tell potential students what it's like taking the course
    b. Professors could also have their own pages like RateMyProfessor where students can see all the courses they teach and reviews for each one
4. Have sample degree plans copied/pasted into your roadmap when you're a freshman

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    a. Will allow for freshman to automatically have required courses in their degree plan
    b. Empty spots will be created where they need to put electives
    c. This way they won't accidentally not take a required course
5. Courses could list what day(s) of the week they're taught on
    a. The times that they're taught would probably vary from semester to semester, but at least users would be able to plan what days they have to be on campus for future semesters
6. Making sure classes are offered consistently
    a. Some courses are offered only once every X number of years
    b. Making these classes offered every year will make it easier for users to fit them into their schedules
7. Being able to have a virtual advisor that can plan your schedule with you
    a. This could be either an AI or an actual person that you have to schedule a time with, but they would help you build the best degree plan possible by giving their insight
8. Pre-made degree plans
    a. As an incoming freshman, you take a look at a slew of 4 year plans for your degree and pick one that looks good
    b. Core classes will of course remain the same across all the options, but electives will vary
    c. Completely eliminates the need to plan stuff yourself

Milestone 4: Affinity Diagram, Task Analysis, and Ideation

END OF MILESTONE 4

[Note: for the final report, you will be directly editing the sections above. Templates for sections you need to add are in the instructions document. Link:

Instructions - Heart of the Problem Milestones]

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