SPP5: Low-Fi Prototyping & Pilot Usability Test

Team Melo

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University of Belize

CMPS3141- Human Computer Interface

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Introduction

Mission Statement

Melo is dedicated to improving the usability and accessibility of the University of Belize's transfer matrix, ensuring that students can efficiently navigate and manage their course transfers with ease and confidence.

Value Proposition

Melo provides a simplified and intuitive interface for displaying transfer data at the University of Belize, helping students easily interpret and compare their course options for a smoother academic planning experience.

Problem/Solution Overview

Many users faced challenges when using the University of Belize's existing transfer matrix. Its inefficiency and poor navigation cause confusion and delays for students trying to transfer credits from other institutions. Melo aims to address all these issues by recreating the transfer matrix to be more streamlined and user-friendly. This will help students navigate the transfer process more effectively, make informed academic decisions, and reduce the workload for university staff, ultimately improving the overall process.

Sketches

Prototype One

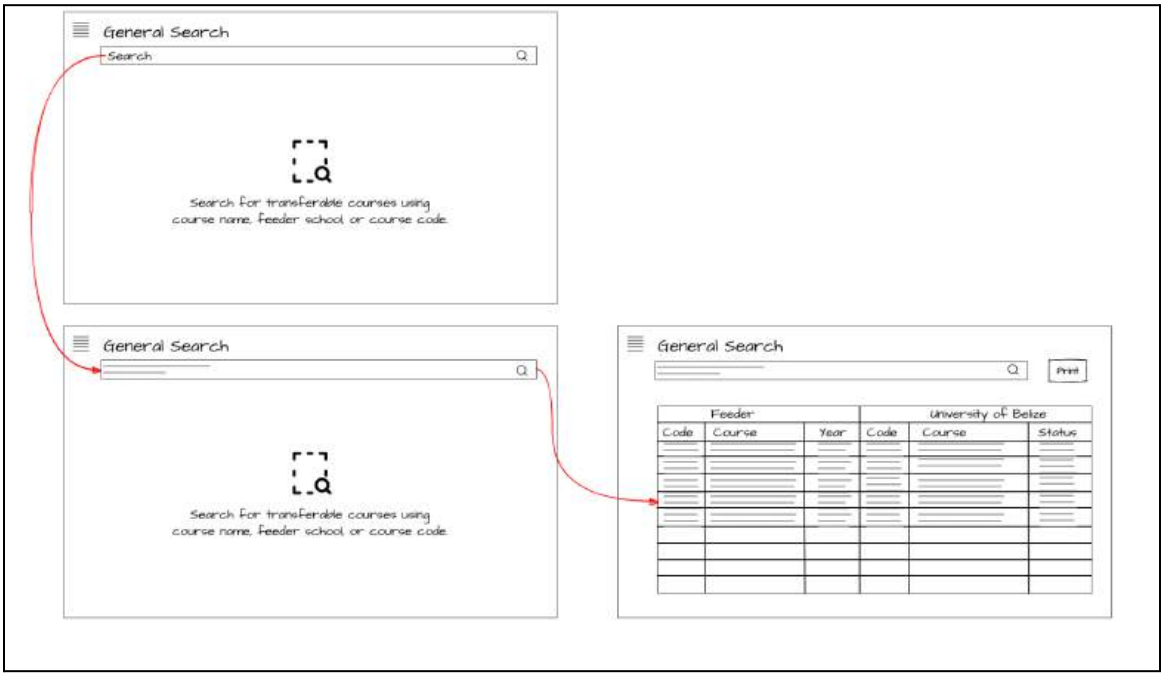


Figure 1. Sketches for Website- Prototype 1- General Search

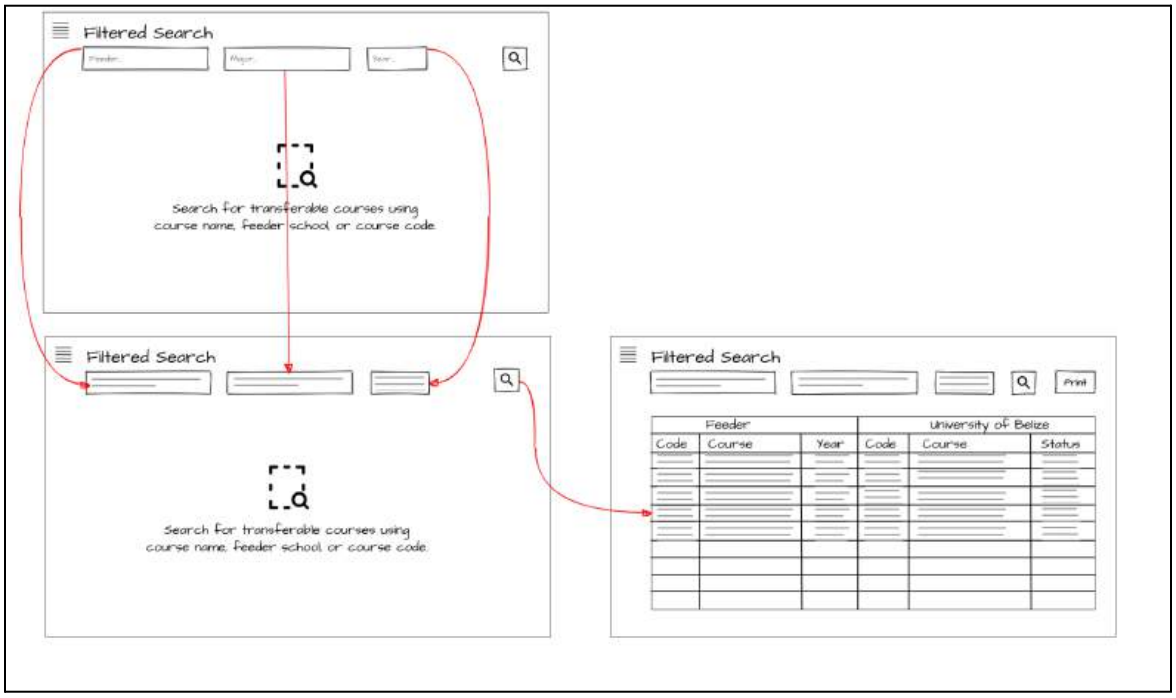


Figure 2. Sketches for Website- Prototype 1- General Search

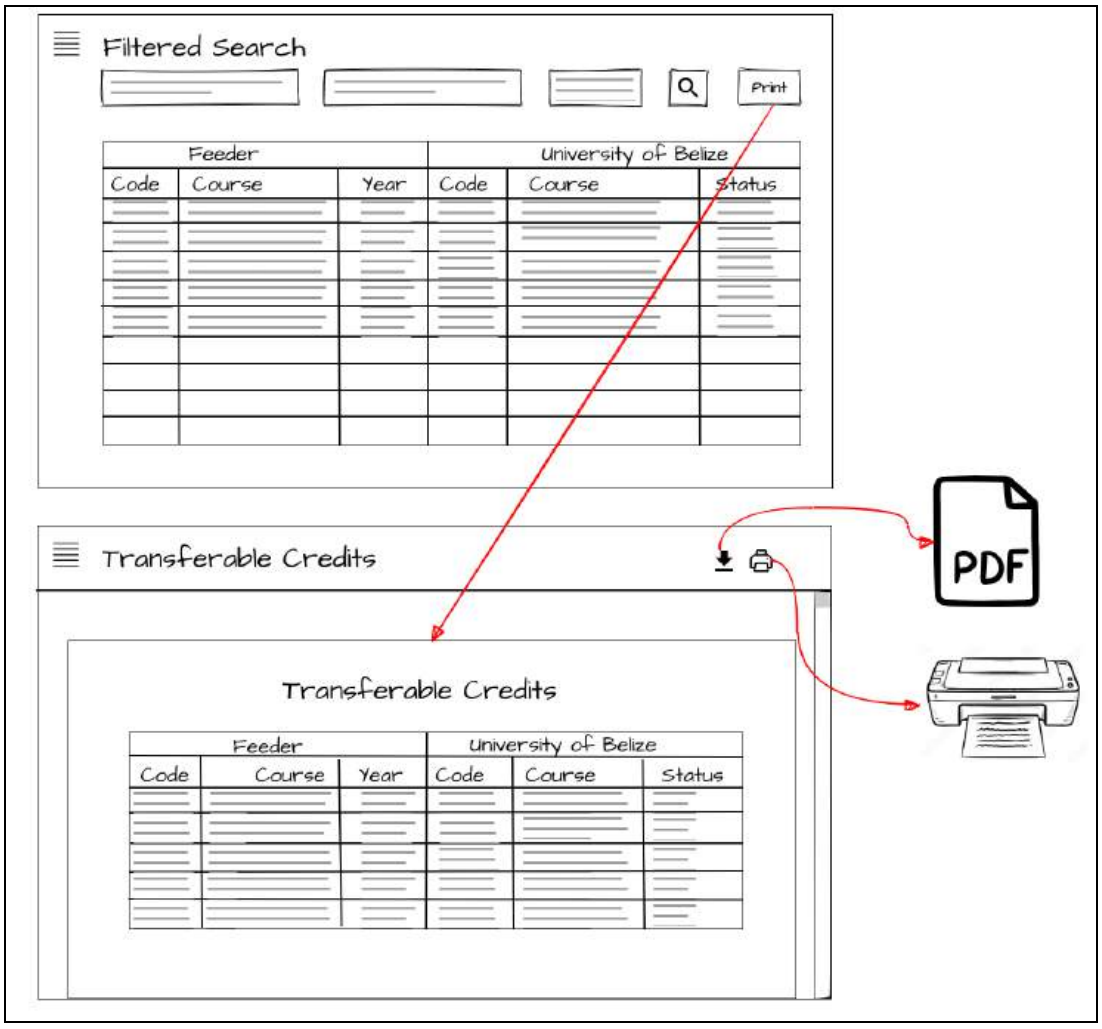


Figure 3. Sketches for Website- Prototype 1- Print Transferable Credits

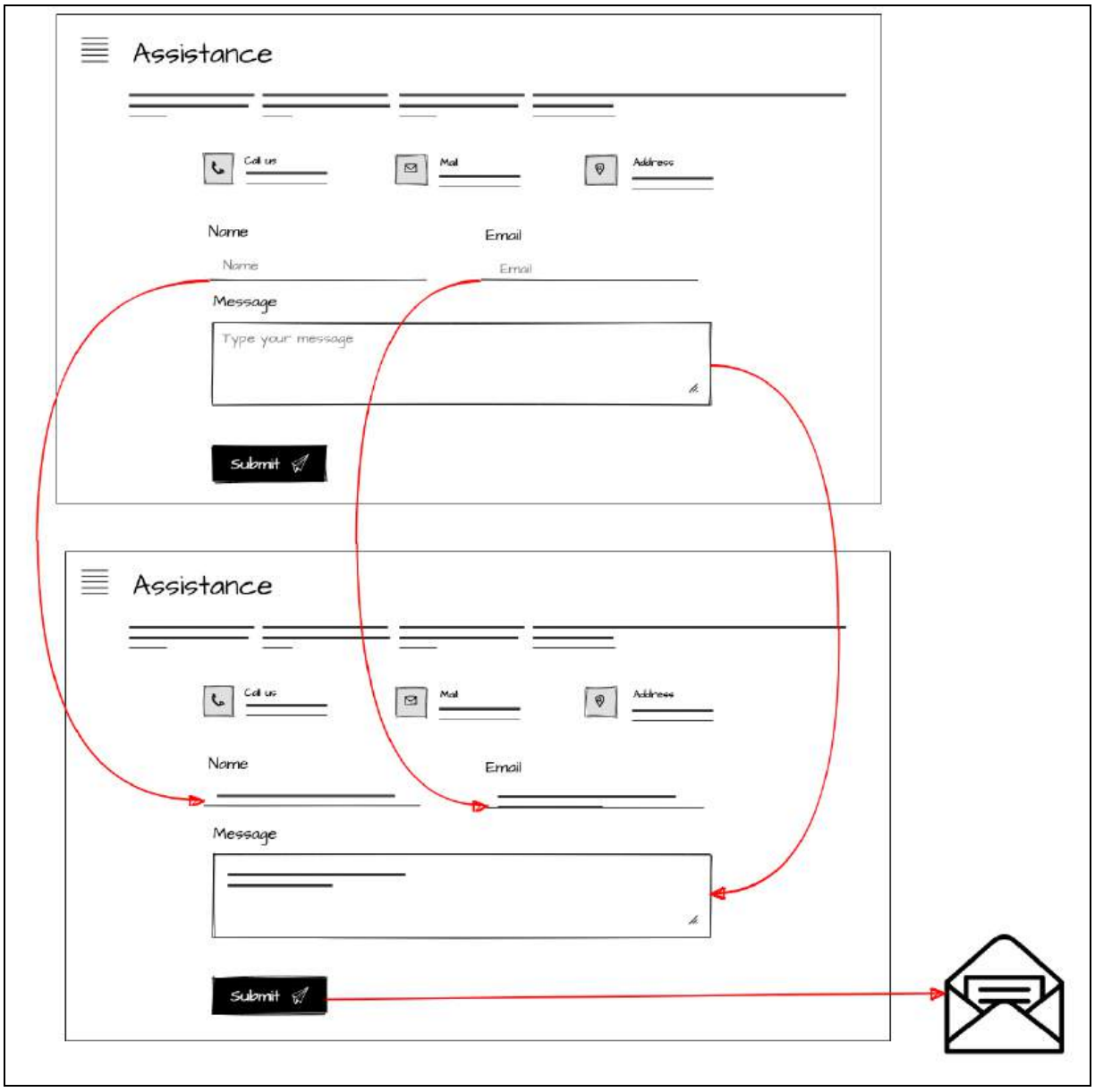


Figure 4. Sketches for Website- Prototype 1- Email Faculty for Assistance

Prototype Two

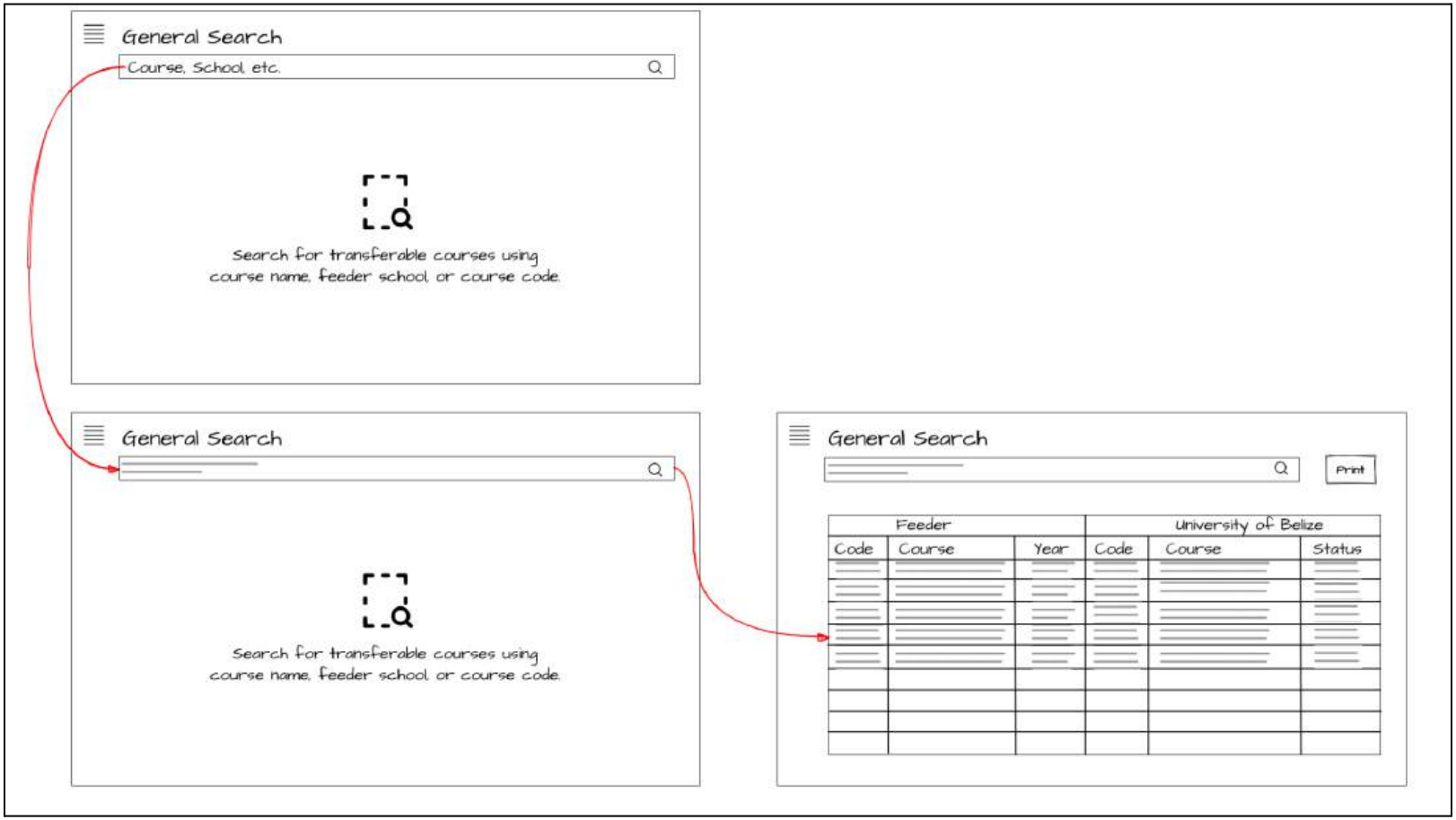


Figure 5. Sketches for Website- Prototype 2- General Search

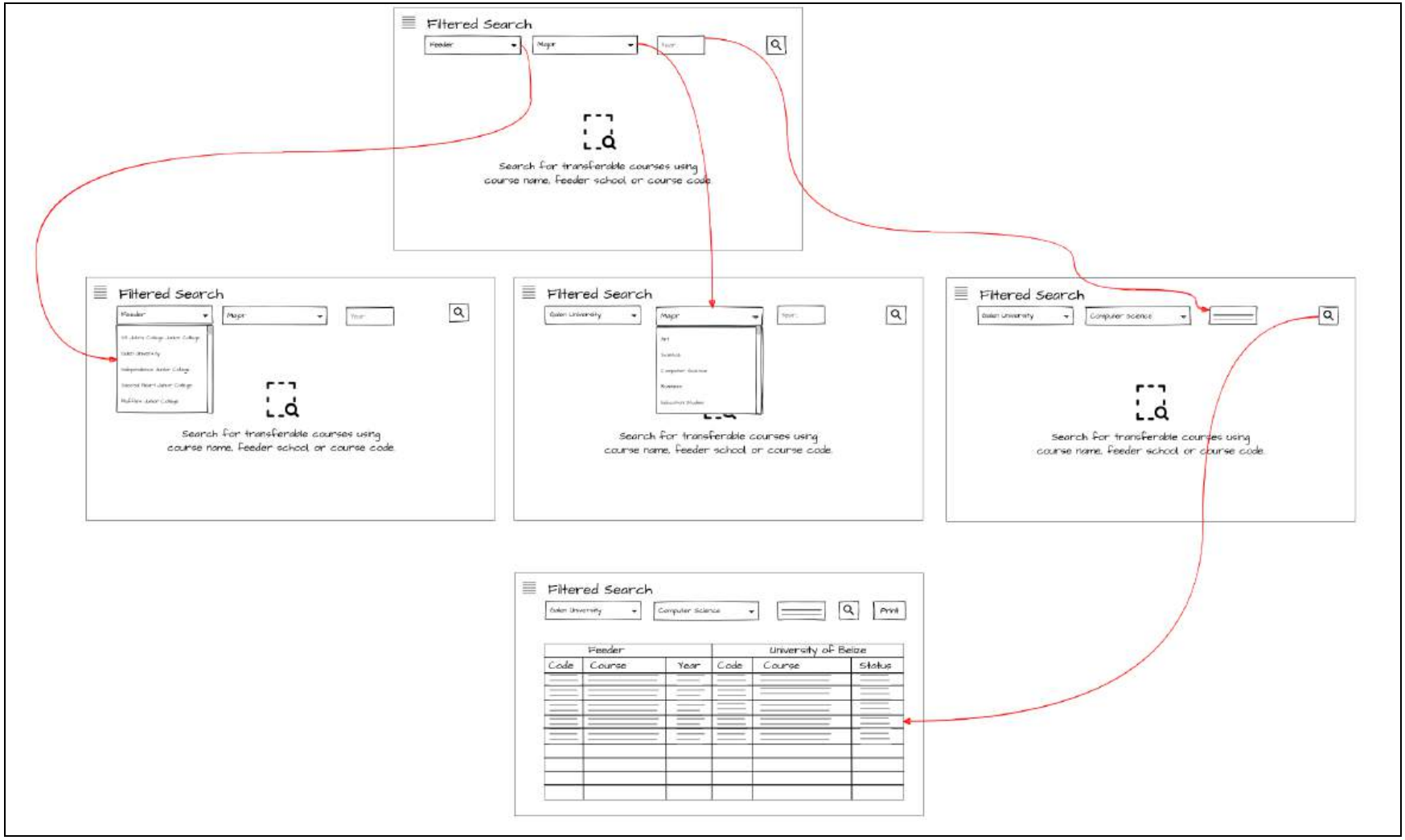


Figure 6. Sketches for Website- Prototype 2- Filtered Search

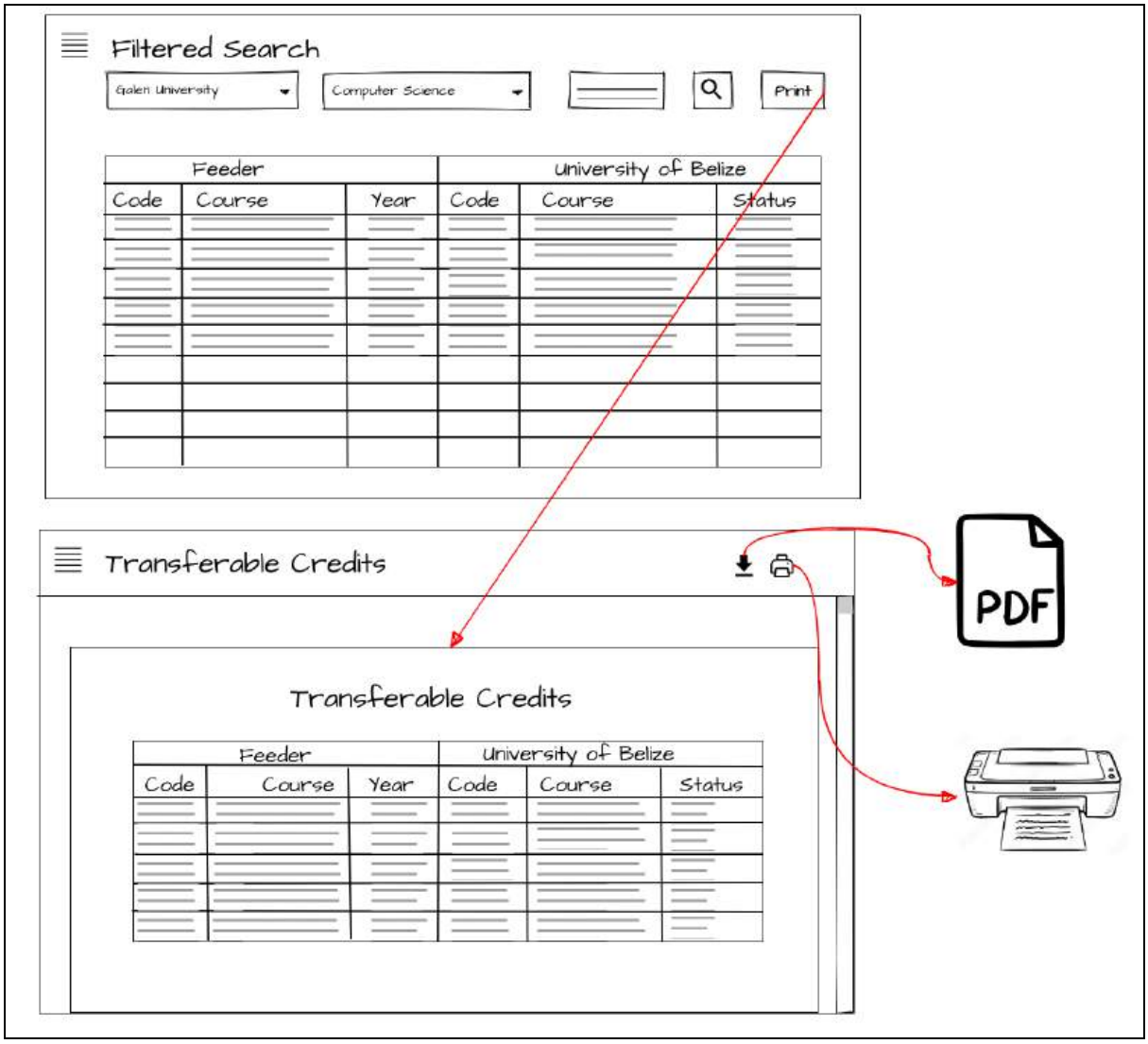


Figure 7. Sketches for Website- Prototype 2- Print Transferable Credits

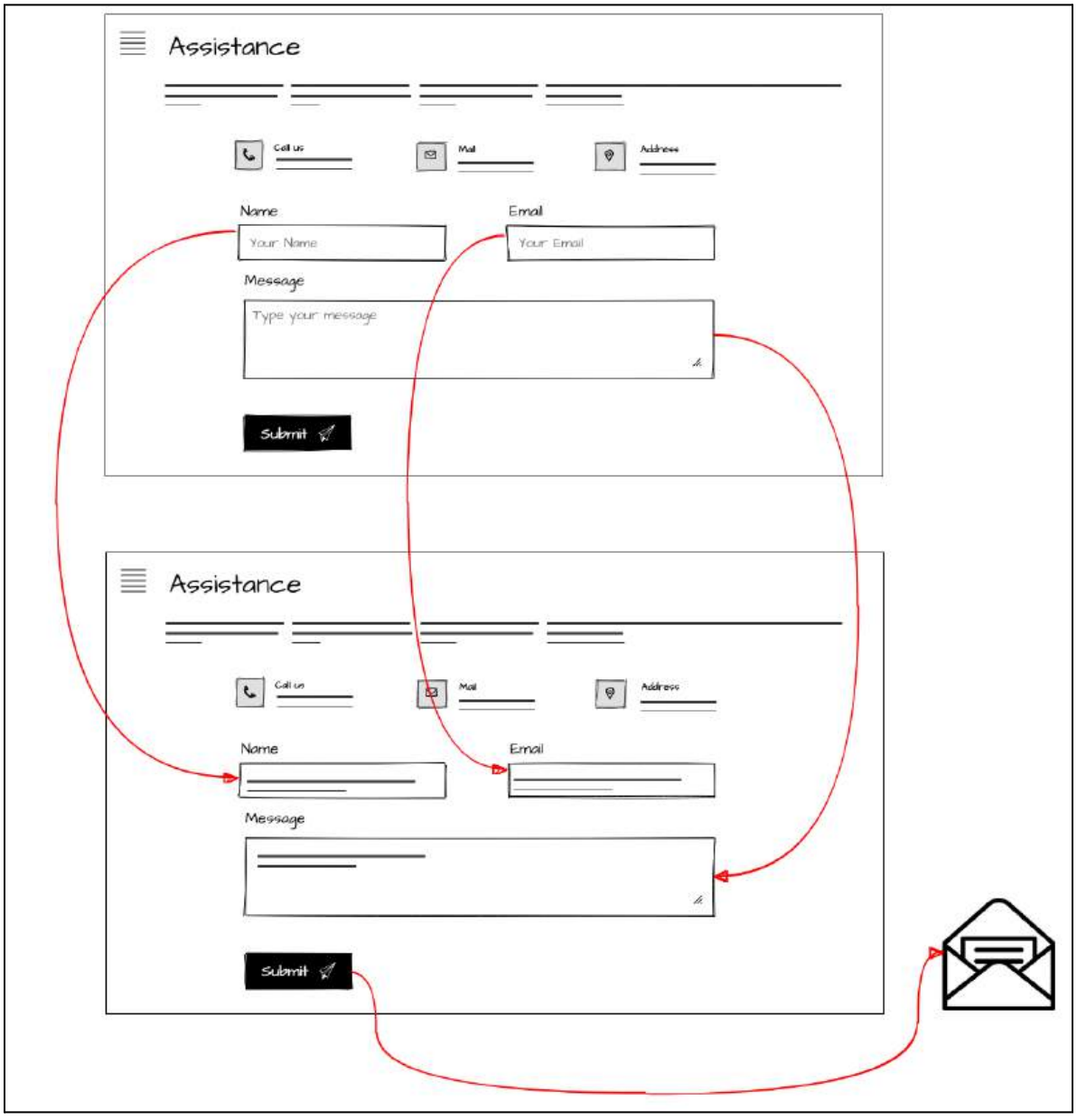


Figure 8. Sketches for Website- Prototype 2- Email Faculty for Assistance

Prototype Three

Figure 9. Sketches for Website- Prototype 3- General and Filtered Search

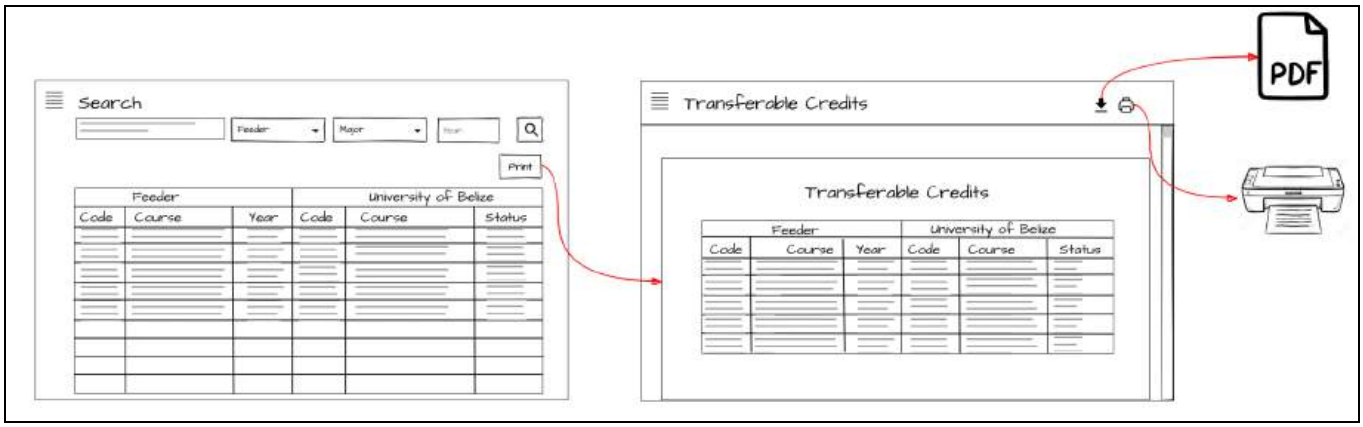


Figure 10. Sketches for Website- Prototype 2- Print Transferable Credits

Figure 11. Sketches for Website- Prototype 2- Email Faculty for Assistances

Top 2 Designs

Prototype Four

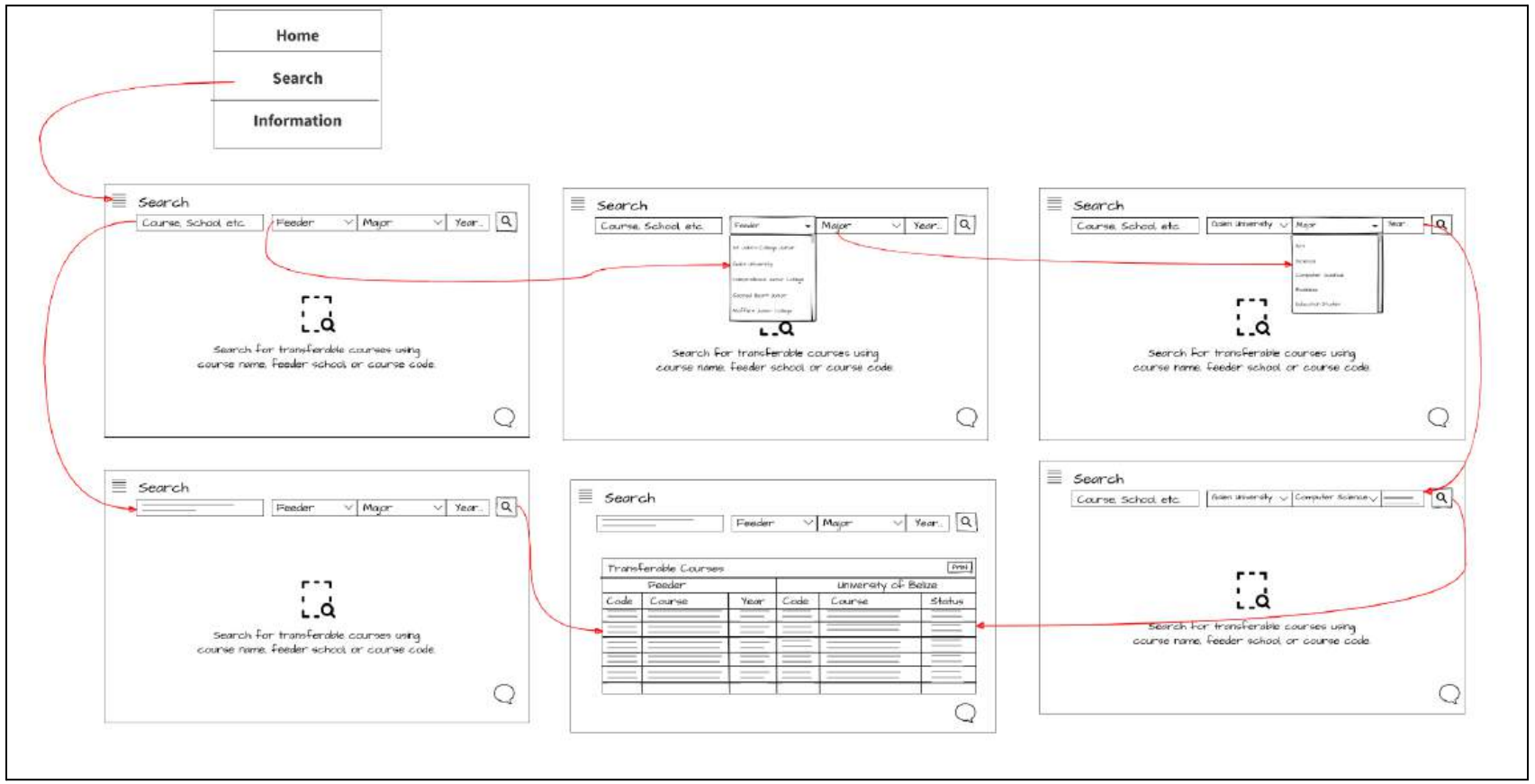


Figure 12. Sketches for Website- Prototype 4- Navigation to Search

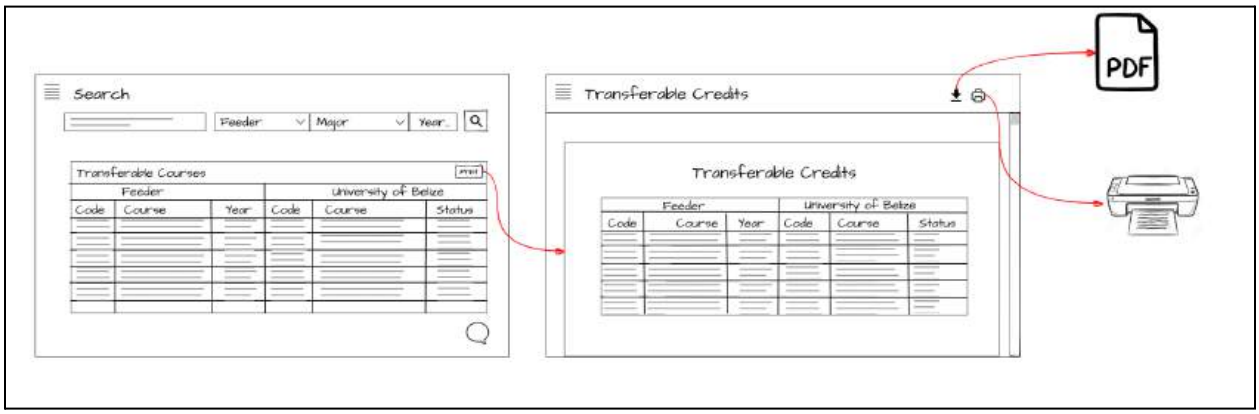


Figure 13. Sketches for Website- Prototype 4- Print Transferable Credits

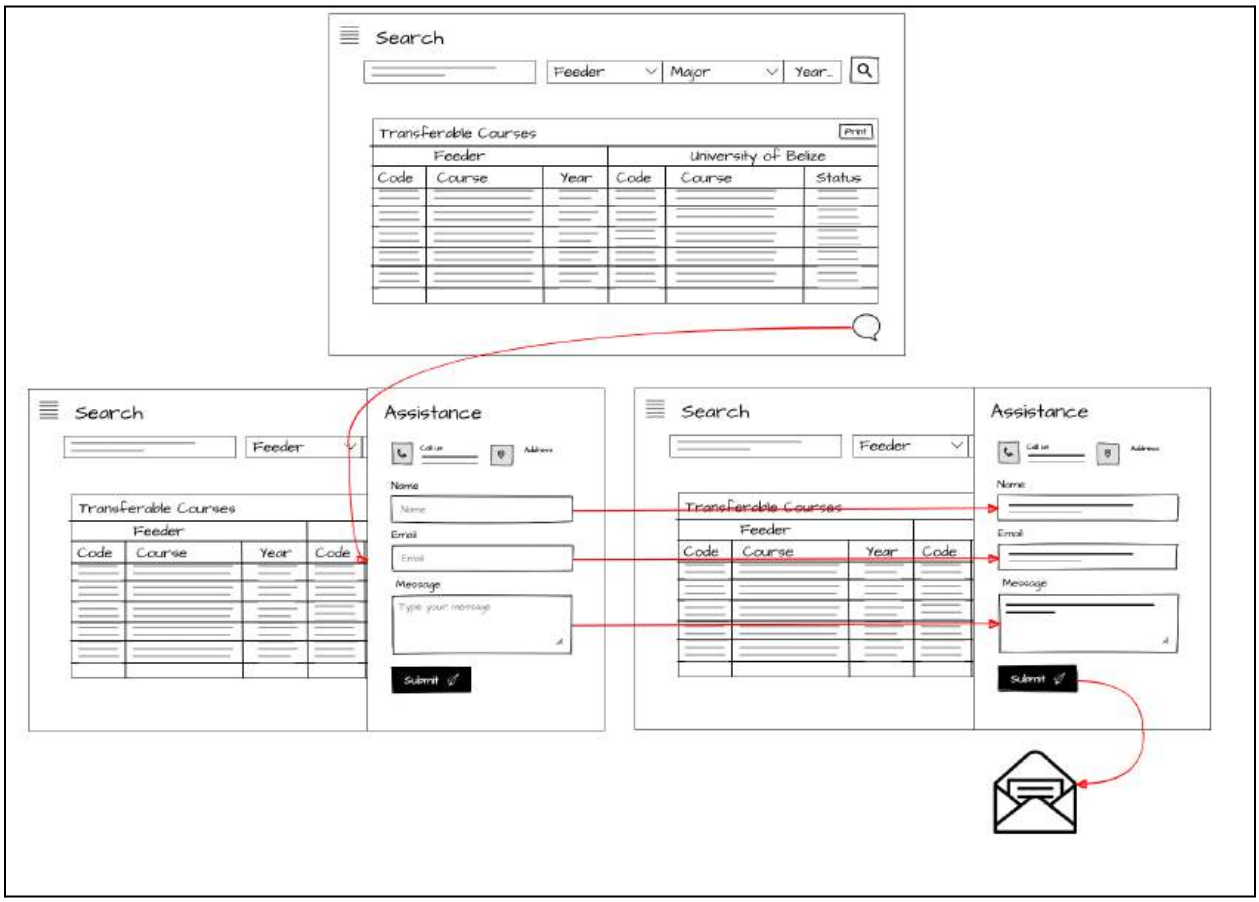


Figure 14. Sketches for Website- Prototype 4- Email Faculty for Assistances

Pros and Cons of Prototype Four

Pros	**Cons**
• Intuitive search filters • Users can print and save their results as PDF for easy reference. • Message access hovers the entire time the user is on the site.	• Could overwhelm users with too many options on one line, making it less user-friendly • Lack of spacing makes it feel cluttered • Form sliding may disrupt the user's workflow • Small spacing for the search box can hinder input

Table 1. Pros & Cons Prototype four

Prototype Five

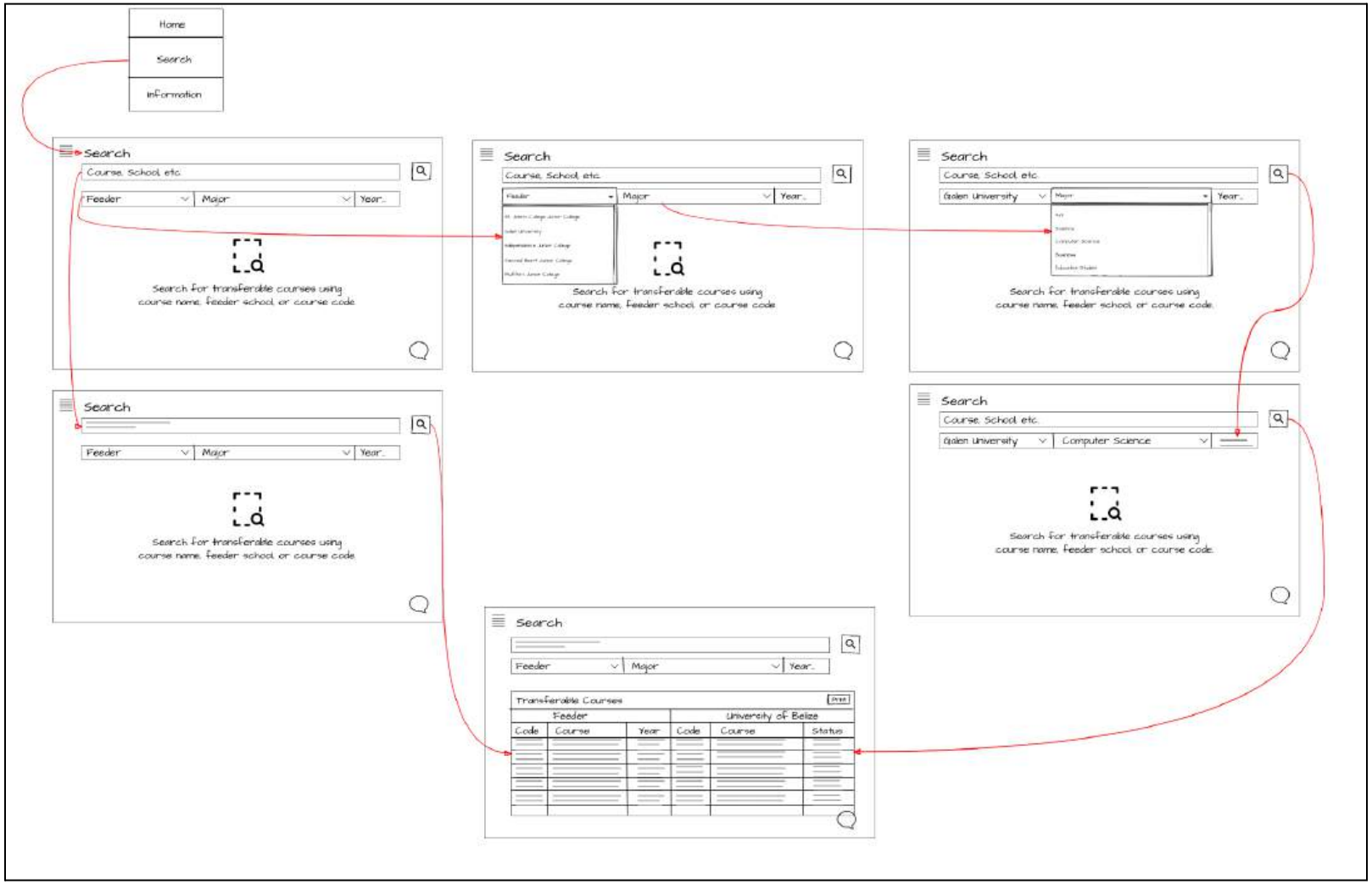


Figure 15. Sketches for Website- Prototype 5- General and Filtered Search

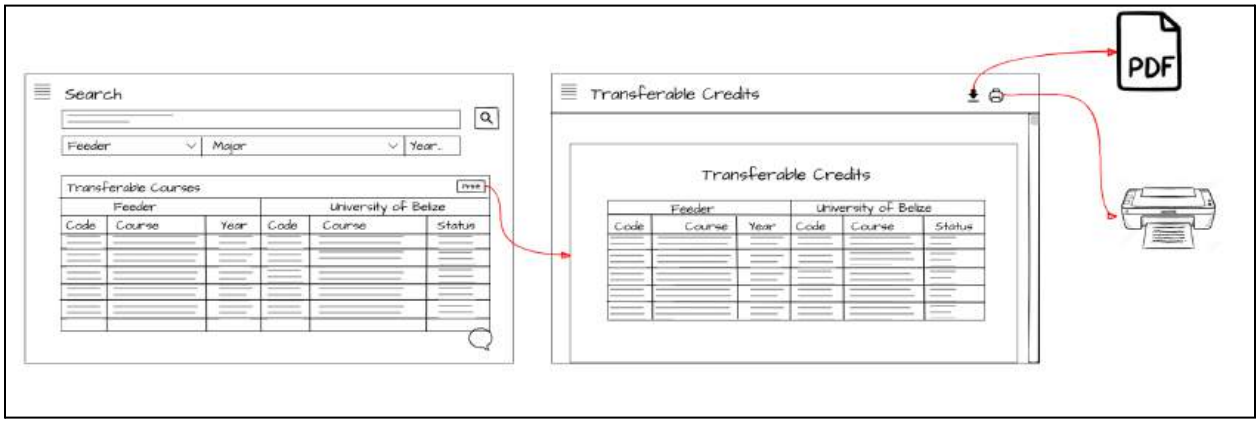


Figure 16. Sketches for Website- Prototype 5- Print Transferable Credits

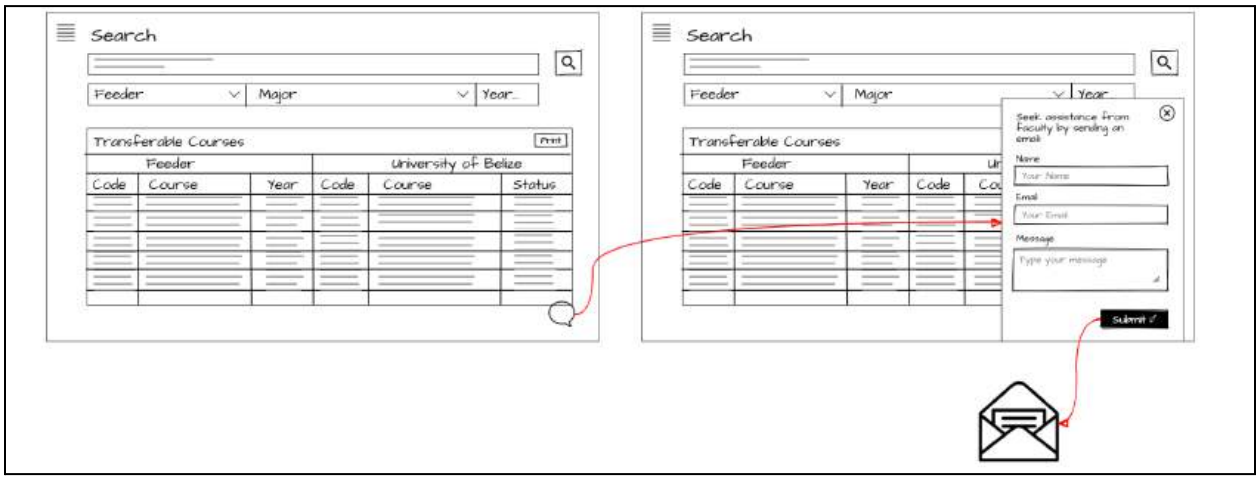


Figure 17. Sketches for Website- Prototype 5- Email Faculty for Assistances

Pros and Cons of Prototype Five

Pros	**Cons**
• Filter information is available on separate lines to allow data visibility. • Message access hovers the entire time the user is on the site, allowing fast access • Dynamic interface across devices • Organized table makes it easy to compare courses and their transferable status. • Bigger search box for easier input	• Simplicity leads to limited functionality/features

Table 2. Pros & Cons Prototype five

Selected Interface Design

Prototype Five

Prototype five was selected for its enhanced user experience. This design effectively balances accessibility and functionality, making it a more user friendly interface. Additionally, the layout provides a cleaner interface, ensuring that important features are easily accessible while maintaining a clear focus on the search function. Overall, Prototype #5 aligns well with our usability goals, promoting a more intuitive and efficient user interaction.

The design includes four primary functions:

- Specific Search: Users can search for specific courses or institutions by typing directly into the search box, making it quick and efficient to find what they need.
- Search by Filters: Users can refine their search by selecting from dropdown menus, such as feeder school and major, or by typing and selecting options from these dropdowns. They can also enter the year in a designated box for more precise results.
- Email/Message Registrar for Help: By clicking the message icon, a form will pop up, allowing users to quickly compose and send inquiries or requests for assistance to the registrar.
- Print Results: Once users have found everything they need, they can click the "Print" button, which will take them to a new page where they can print or save their results as a PDF for future reference or sharing.

Method

Participants and Environment

The participants for this experiment were selected from the student body at the University of Belize, Belmopan campus. Participants were chosen at random to ensure an unbiased selection process and to prevent them from observing how others interacted with the prototype. This approach allowed each user to experience the prototype for the first time without any prior influence.

The prototype testing was conducted at multiple locations on the Belmopan campus to provide a diverse and realistic environment for participants. These locations included the cafeteria, the lounge area, and the labs in the Jaguar building. By selecting different areas across the campus, the testing aimed to capture a variety of user experiences in different settings.

Tasks

1. Specific Search
2. Search by filters
3. Email/Message Registrar for Help
4. Print Results

Procedure

The participants were given a brief overview of the experiment. The facilitator guided the participant in navigating the prototype. This included the user navigating in from different windows and different stages of the searching process. The observer took note of any difficulties or simplicity the participant had. After the experiment a brief survey was done to get feedback from the participant.

Test Measures

- Success:

  All participants were able to successfully complete each of the assigned tasks, demonstrating both learnability and usability of the user interface. No major issue was encountered, highlighting that the user UI's layout and navigation contributed to a smooth and user-friendly experience.

- Errors:

  The transfer matrix is designed for a specific group of users, so we tested our UI with a few students who had not previously experienced the transfer process. Overall, the UI flow was straightforward after we provided an explanation. However, since the transfer matrix targets a specific user group, students unfamiliar with the transfer process needed additional clarification on the fields they were using during the search. To resolve this issue for less informed individuals or newer users informational hints were included to make the UI more user-friendly.

Timing

Tasks	Participant #1	Participant #2	Participant #3	Participant #4
Specific Search	00:18	00:25	00:15	00:21
Search by filters	00:30	00:35	00:37	00:26
Email/Message for assistance	00:12	00:10	00:08	00:15
Print results	00:30	00:20	00:15	00:16

Table 3. Time taken by participants to complete each task

Member Roles

- Kelsey Aban and Chahiim Pop - Observers
- Aiyesha Coleman - Facilitator
- Pedro Kukul - Computer

Results

- All four participants completed the tasks successfully.
- When shown the previous transfer matrix, they were eager to test the updated matrix
- “It would be nice if you could customize the report” – Participant 2
- “The filter’s are great but maybe they could be integrated into the general search” – Participant 3
- “It looks and navigates so much nicer than the previous matrix.” – Participant 4
- “The print feature is a bit confusing.” – Participant 1
- Most participants were able to navigate through the prototype with ease.
- Participant 1 had issues locating the and using the print feature, however it may due to external factors.

Discussion

The participants were able to complete each of their assigned tasks with ease, demonstrating the learnability and usability of the user interface. Navigating through the UI, the participants were able to understand how to perform tasks assigned to them which were searching with filters, doing a general search, asking for assistance and printing their transfer matrix.

Feedback from the participants suggested that the UI had met its core usability objectives. However, there were minor areas of improvement. Their feedback emphasized the efficiency of the UI, particularly in relation to the filtering and search functions. On the other hand, the print feature caused some confusion for one participant, indicating that this part of the UI may need further clarification or a more prominent position in the interface. One notable aspect of the feedback was the positive response to the clean and streamlined design of the UI. Participants generally appreciated how much easier it was to find and compare courses, suggesting that the interface was successful in meeting the primary goal of improving usability. With these suggestions, the inclusion of informational hints would be helpful for future users who may be unfamiliar with the transfer process, further enhancing the accessibility of the interface. The overall feedback about the design and navigation matrix, especially compared to the previous one, underscores the success of the recent updates.

Appendices

Appendix 1: Participant Experience

	Tasks Completed Without Assistance				
Tasks	**#1**	**#2**	**#3**	**#4**	**Scale of Problem**
Specific Search					1
Search by filters					3
Email/Message for assistance					1
Print results					3

Scale is defined as:

- 1 - No Issues
- 10 - Unclear

Task Completed:

- Green: Completed without assistance
- Red: Completed with assistance

Appendix 2: Web Application Low-Fi Prototype

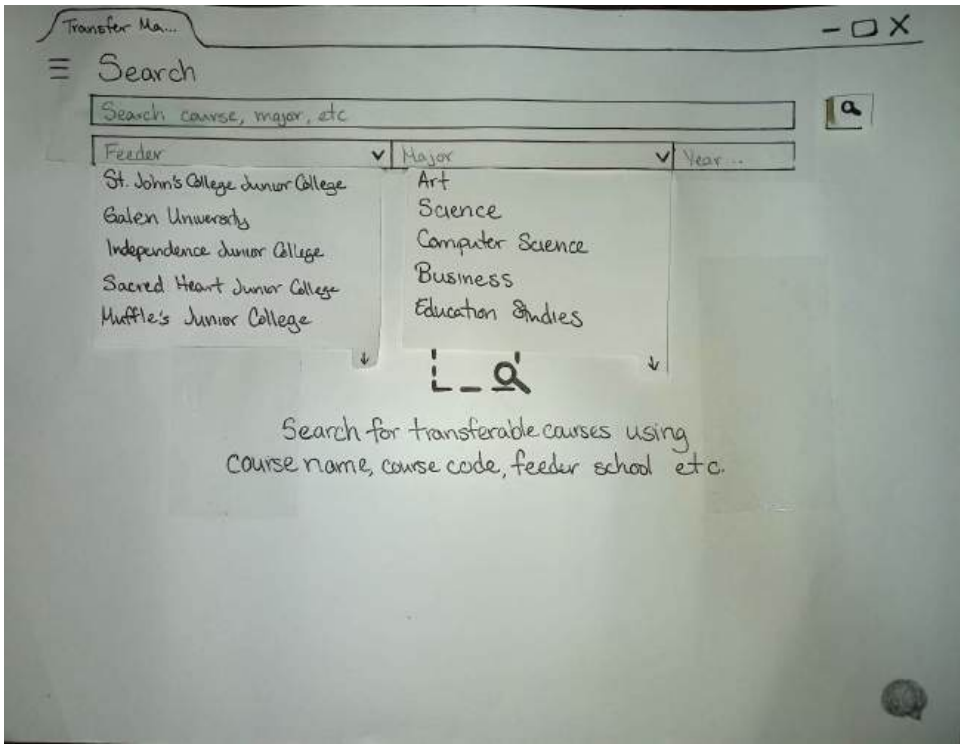


Figure 18 Screen for search and message functionality.

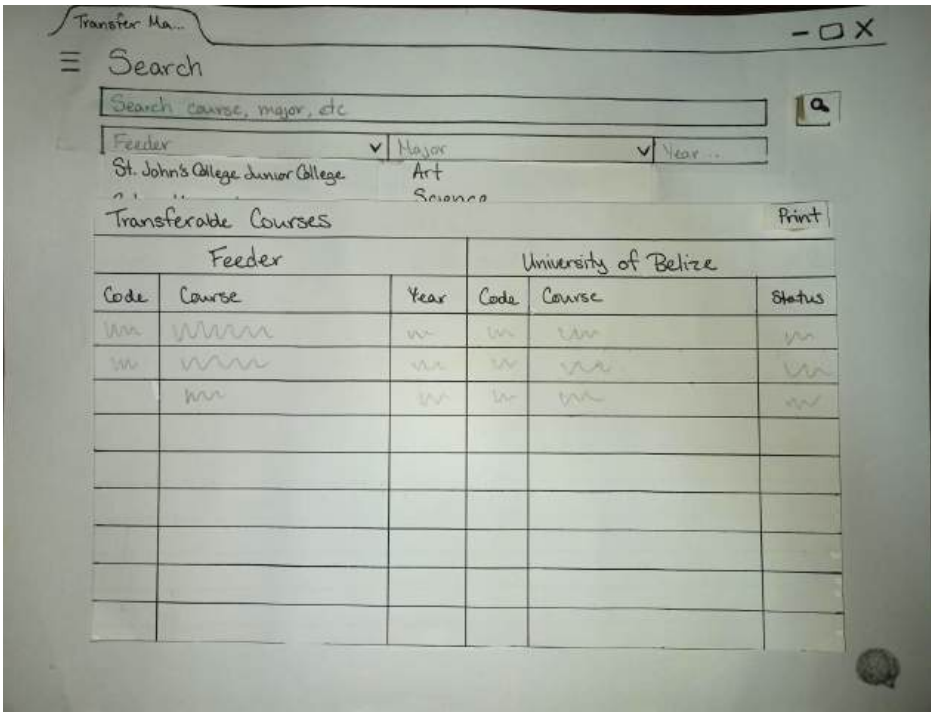


Figure 19 Search results presented after selecting the search button or Enter key.

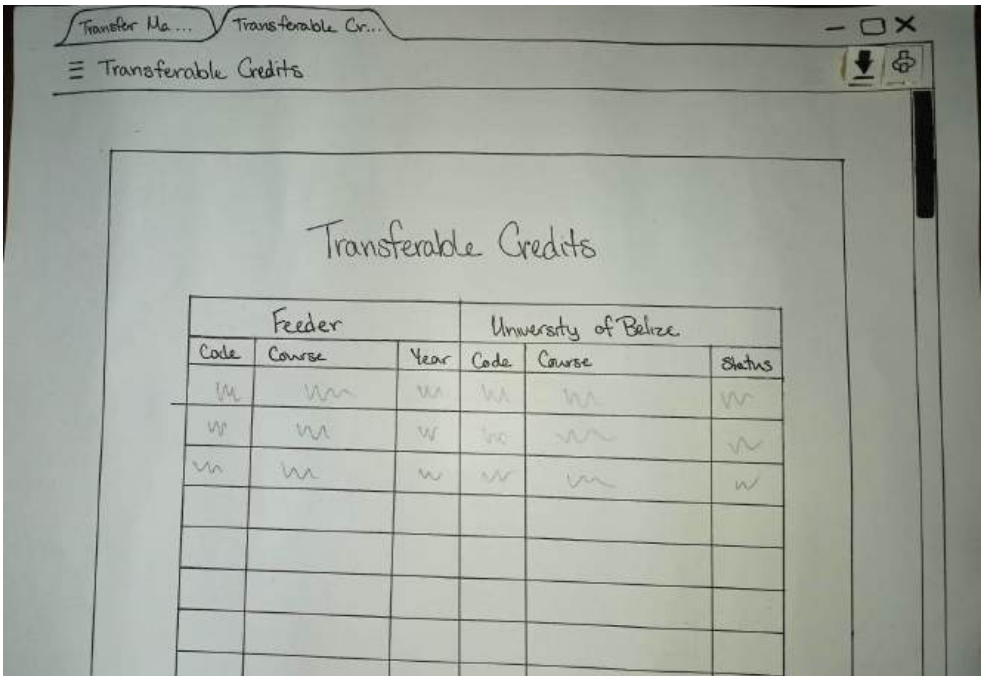


Figure 20 Printing screen to download or print file.

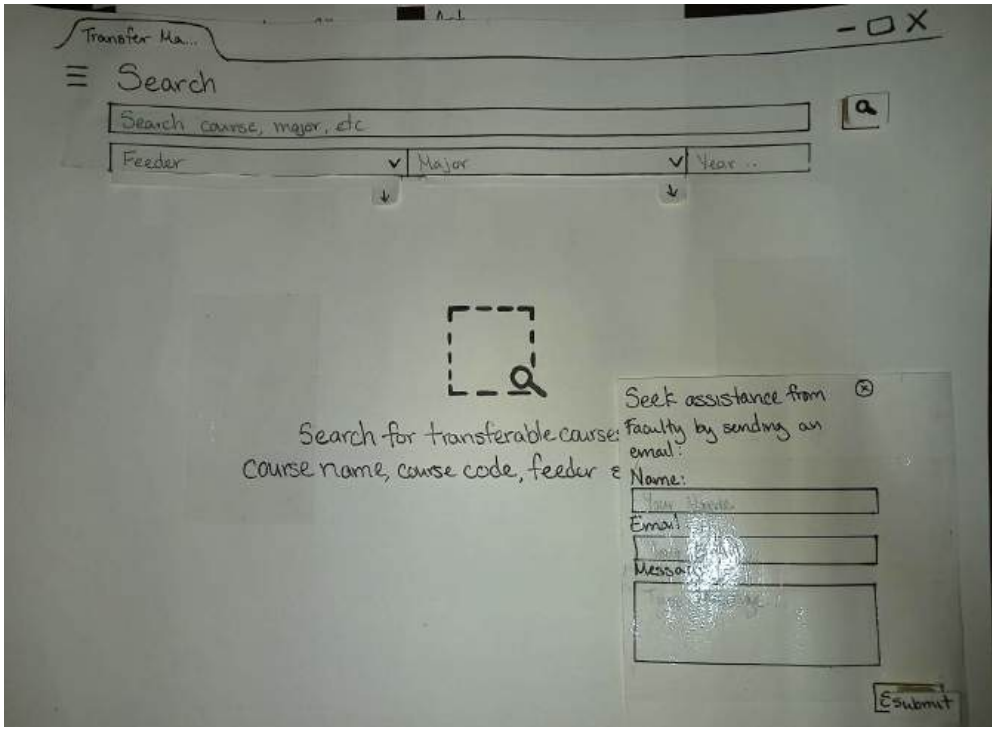
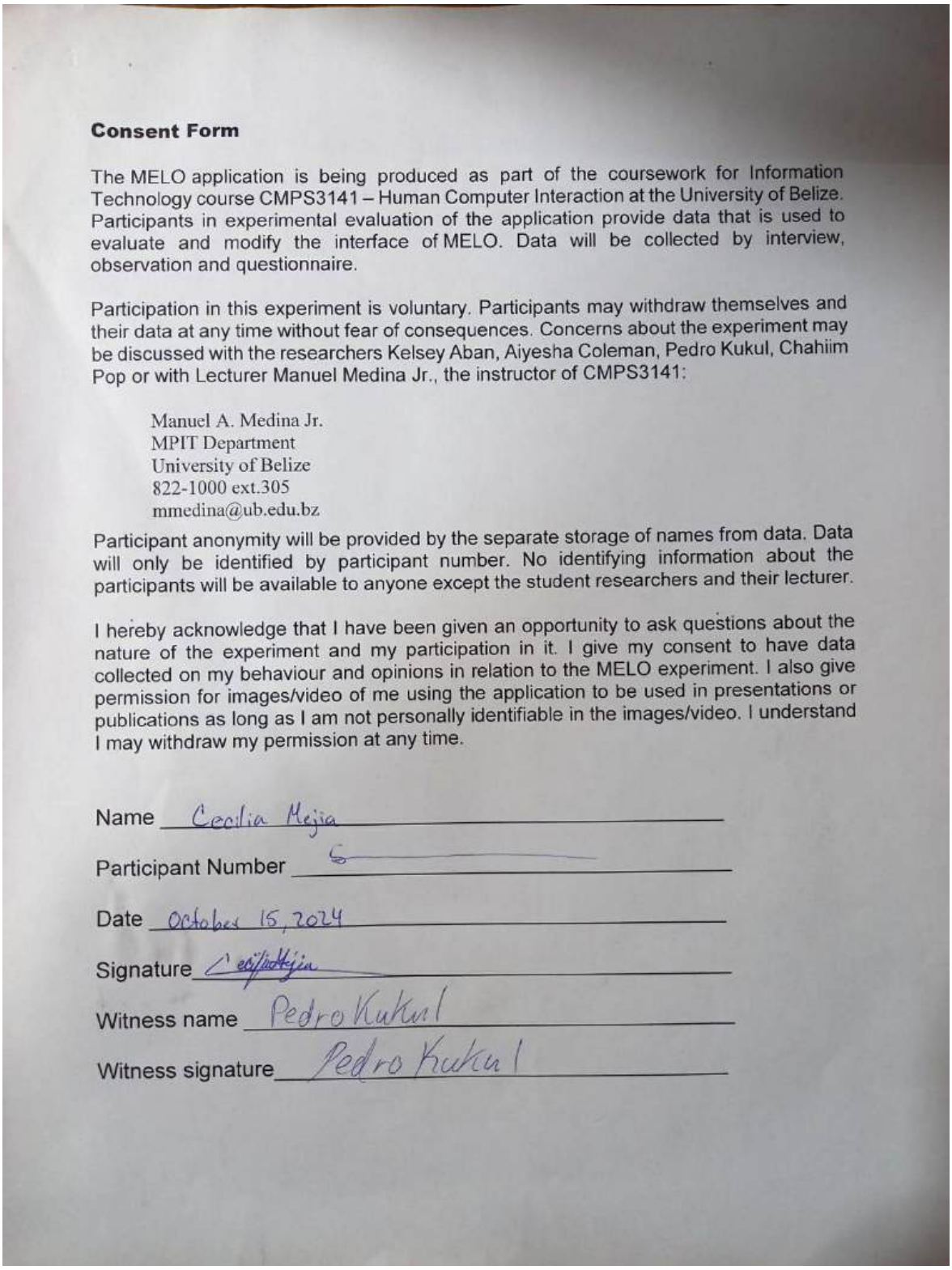


Figure 21 If the user selects the chat button in the right hand corner they can ask questions via email to faculty.

Appendix 3: Consent Forms



Consent Form

The MELO application is being produced as part of the coursework for Information Technology course CMPS3141 – Human Computer Interaction at the University of Belize. Participants in experimental evaluation of the application provide data that is used to evaluate and modify the interface of MELO. Data will be collected by interview, observation and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers Kelsey Aban, Aiyesha Coleman, Pedro Kukul, Chahiim Pop or with Lecturer Manuel Medina Jr., the instructor of CMPS3141:

Manuel A. Medina Jr.
MPIT Department
University of Belize
822-1000 ext.305
mmedina@ub.edu.bz

Participant anonymity will be provided by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their lecturer.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the experiment and my participation in it. I give my consent to have data collected on my behaviour and opinions in relation to the MELO experiment. I also give permission for images/video of me using the application to be used in presentations or publications as long as I am not personally identifiable in the images/video. I understand I may withdraw my permission at any time.

Name Cecilia Mejia

Participant Number 6

Date October 15, 2024

Signature Cecilia Mejia

Witness name Pedro Kukul

Witness signature Pedro Kukul

Figure 22 Participant #1 Consent Form

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Name Joseph Rosado

Participant Number 603-0411

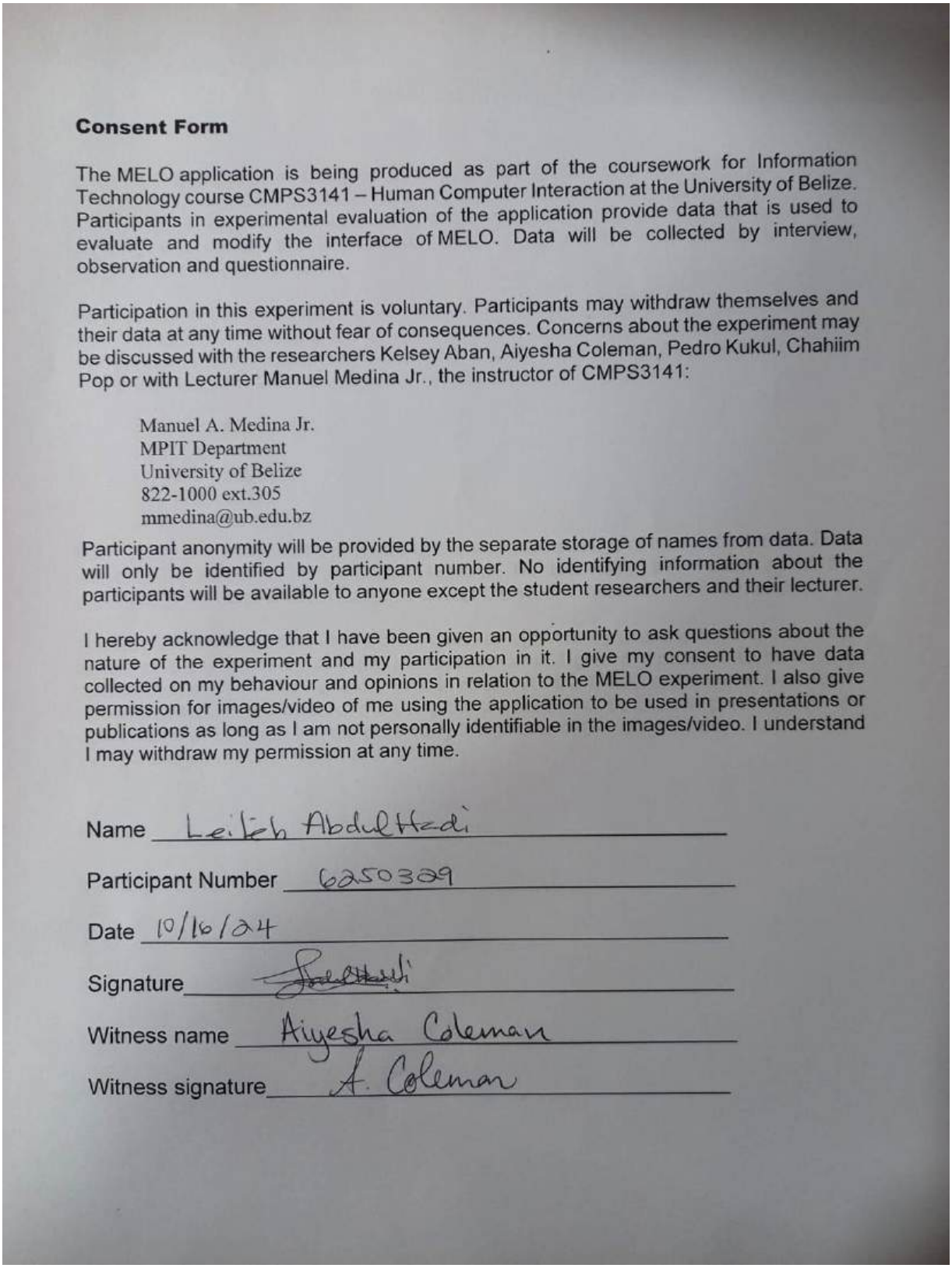
Date 16/10/2024

Signature Rosado

Witness name Brianne Mangar

Witness signature

Figure 23 Participant #2 Consent Form



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Name Leilah AbdulHadi

Participant Number 6250309

Date 10/16/24

Signature

Witness name Aiyesha Coleman

Witness signature A. Coleman

Figure 24 Participant #3 Consent Form

Consent Form

The MELO application is being produced as part of the coursework for Information Technology course CMPS3141 – Human Computer Interaction at the University of Belize. Participants in experimental evaluation of the application provide data that is used to evaluate and modify the interface of MELO. Data will be collected by interview, observation and questionnaire.

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Name Brianne Mangar

Participant Number 627-8279

Date 16th/10/24

Signature

Witness name Joseph Rosado

Witness signature Rosado

Figure 25 Participant #4 Consent Form