CS 411W Lab 1

Project Characteristics

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1 Introduction

- Bachelor's degrees are not enough to qualify for early career positions.
- College students are surrounded by other students who want an opportunity to use their skills.
    - E.g. film student wants to make a short film: English majors, theatre students, etc. who may enjoy working on the project as well.
    - Problem: students do not always seek each other out.
- Solution: service that allows college students who want to create a project to meet students who want opportunities to use their skills.
- Increased enrollment: Veera Korhonen tracked both high school and college graduates by population percentage from 1960 to 2022; number of college graduates has continued to increase. This increase is shown in Figure 1.
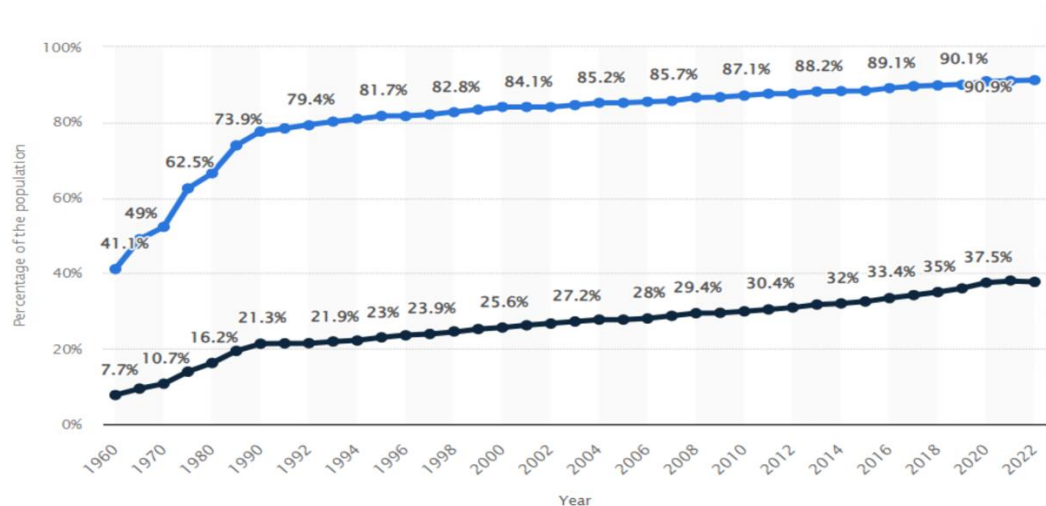
Figure 1: Graph of enrollment increase from 1960 - 2022 (Korhonen, 2023).

- Few internships: A study performed by Sarah Zehr in 2016 showed that 75% of students had some form of internship experience by graduation; another conducted by Kapoor and Gardner-McCune in 2020 highlighted that these numbers are lower. For computer science graduates, only about 40% had landed internships. The distribution of internship participation by household income and gender is highlighted in Figure 2.

Figure 2: Participation in internships by household income and by gender. (Kapoor & Gardner-McCune, 2020).

- Experience inflation: Verve Search, with Hannah Salton, explored the phenomenon of "experience inflation."
  - Experience inflation: as time goes on, employers require more experience for entry level jobs.
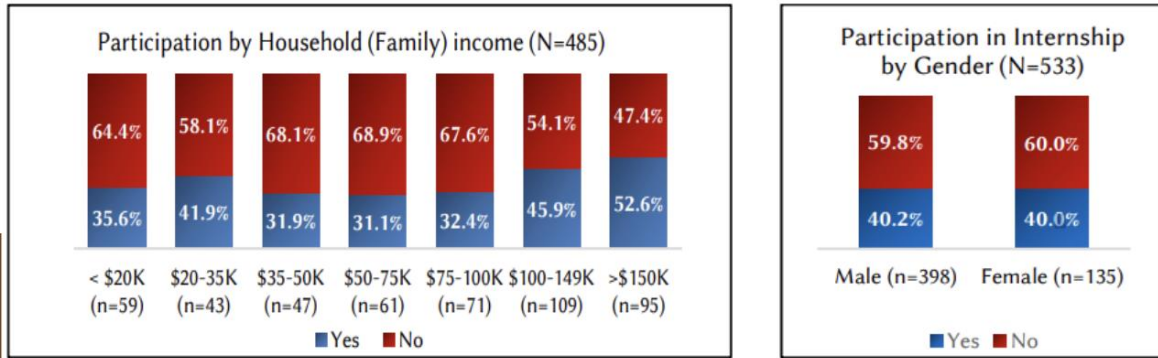 - In the U.S., entry level jobs in several fields are requesting more years of relevant work experience for job listings marketed as "junior level" or "entry level" (see Figure 3).
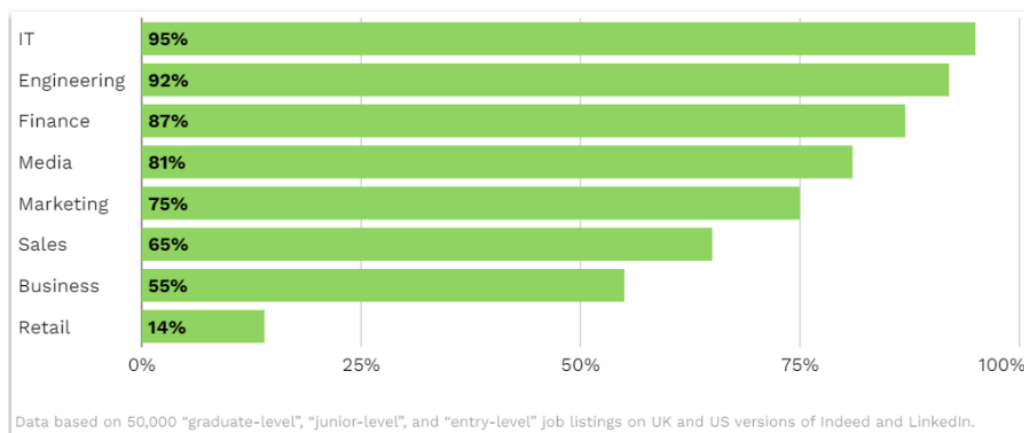

Figure 3: Percentage of jobs, by industry, that required at least two years of experience or more, based on data from LinkedIn and Indeed (Search & Salton, 2022).

- Students who are looking for people to join their project must currently search different platforms to try and find project members. (See Figure 4).
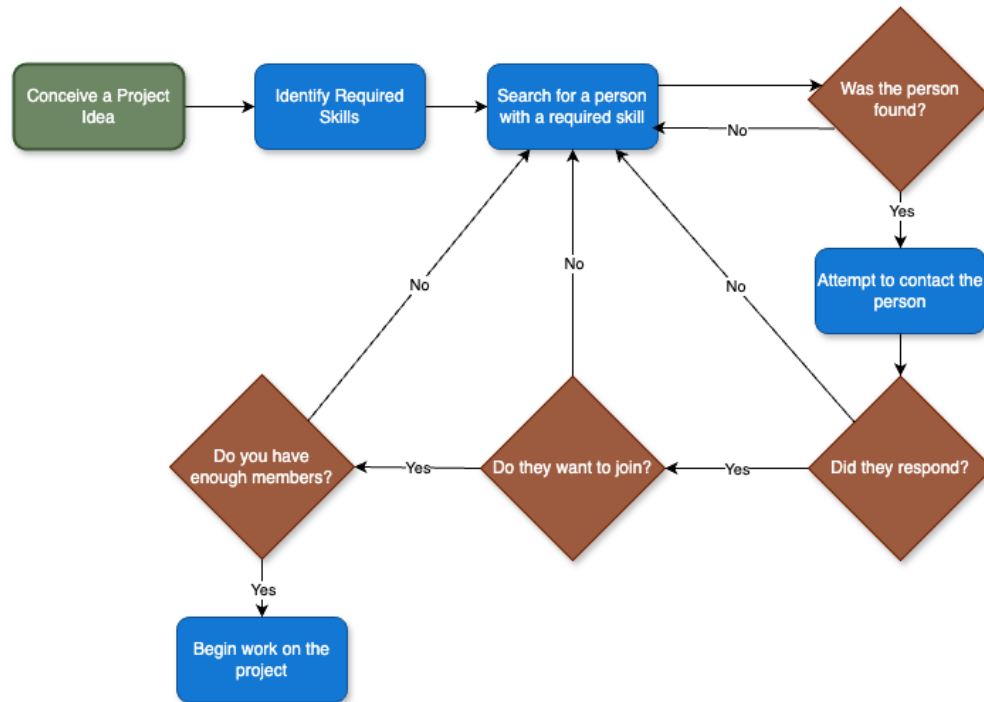 - They also must seek them out individually and wait for a response.

Figure 4: Current process flow for project launchers.

- Students who are looking for experience can either explore traditional employment opportunities or search for other student organized projects (see Figure 5).
    o If they search for traditional employment opportunities, they must find suitable internships/jobs in their area, then they must meet the requirements, then they must apply and be accepted.
    o If they search for student-created projects, they must use different platforms to try to find these projects (face-to-face and/or online).
        ▪ Can face rejection.
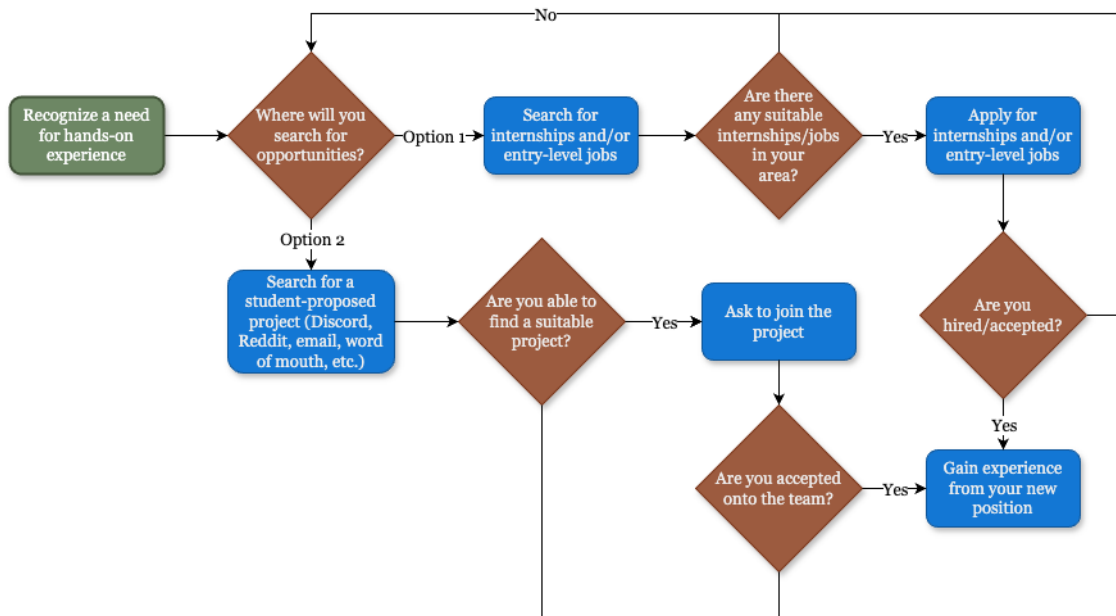   ▪ Can be difficult to find projects.

Figure 5: Current process flow for project seekers.

2 *UConnect* Description

- UConnect will be a web application that allows college students to reach out to each other and work on projects for experience that they can put on their resumes.
- A "Project Launcher" can make a post describing the project they wish to launch, along with needed skills or fields of study for the project.
    o Process of finding members for a project becomes much simpler: only need to advertise on one platform (see Figure 6).
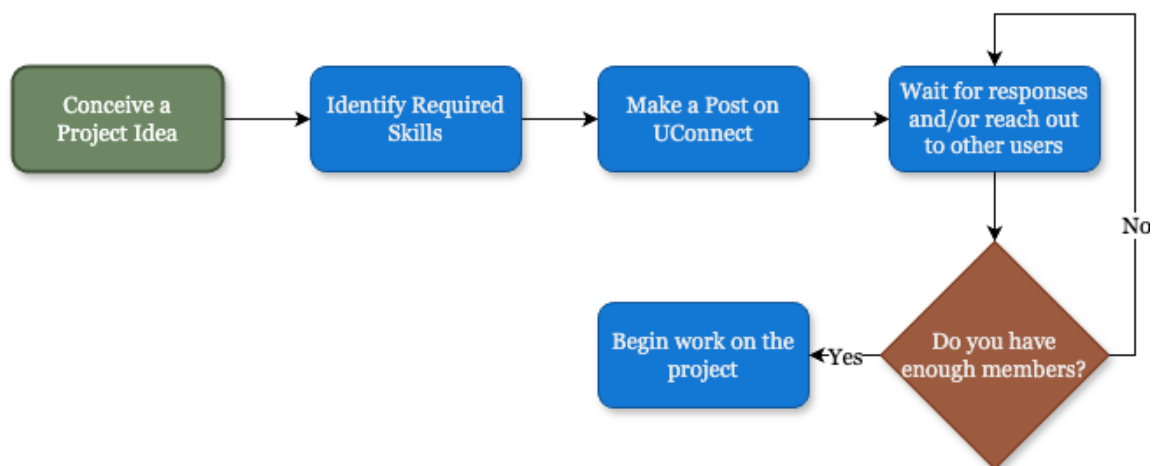

Figure 6: Solution flow of a project launcher.

- A "Project Seeker" can browse posts to find projects they wish to join. They can reach out to Launchers.
  - Students can still pursue traditional employment opportunities.
  - Finding student-created projects to join becomes much easier: only need to search on one platform (see Figure 7)
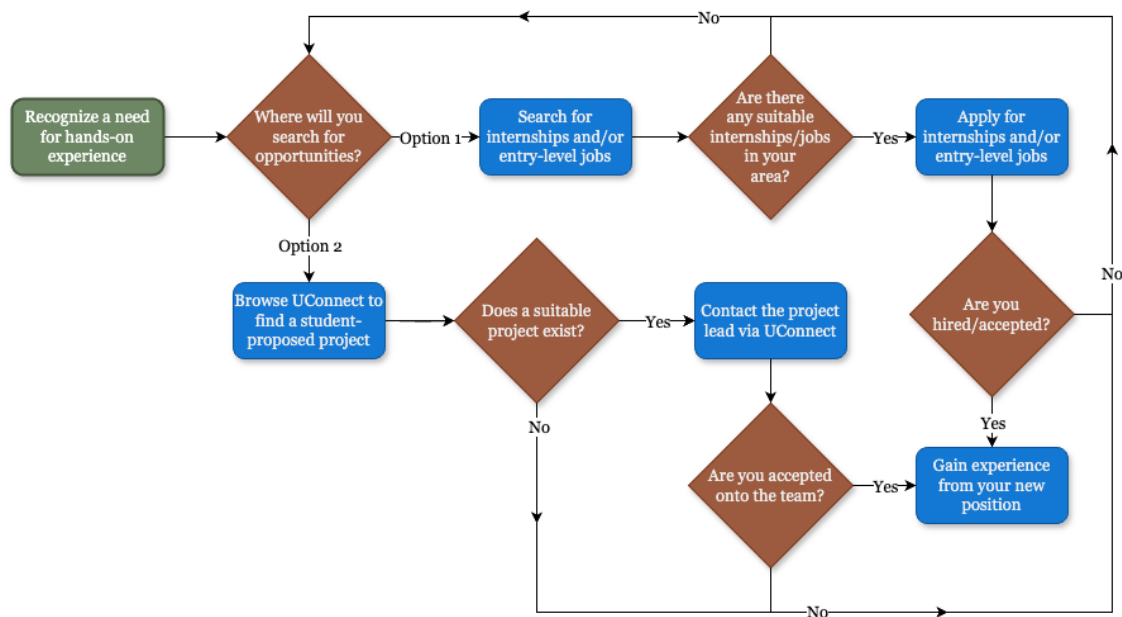

Figure 7: Solution flow of a project seeker.

- Any user, at any time, can be launchers or seekers.

2.1 Key Product Features and Capabilities

- Users can act as project launchers.
  - Create posts to advertise projects. (see Figure 8)
  - Browse user profiles (see Figure 9), reach out to potential team members to recruit.
  - Use the My Projects page to keep track of current and archived projects (see Figure 10: A mockup of the "My Projects" page. An active project is green, an archived project is gray, and a deleted project is red. The number of interested seekers is shown on the right side next to the name of the project..

Figure 8: A mockup of a project launcher creating a post on UConnect.

Figure 9: A mockup of a user profile on UConnect.
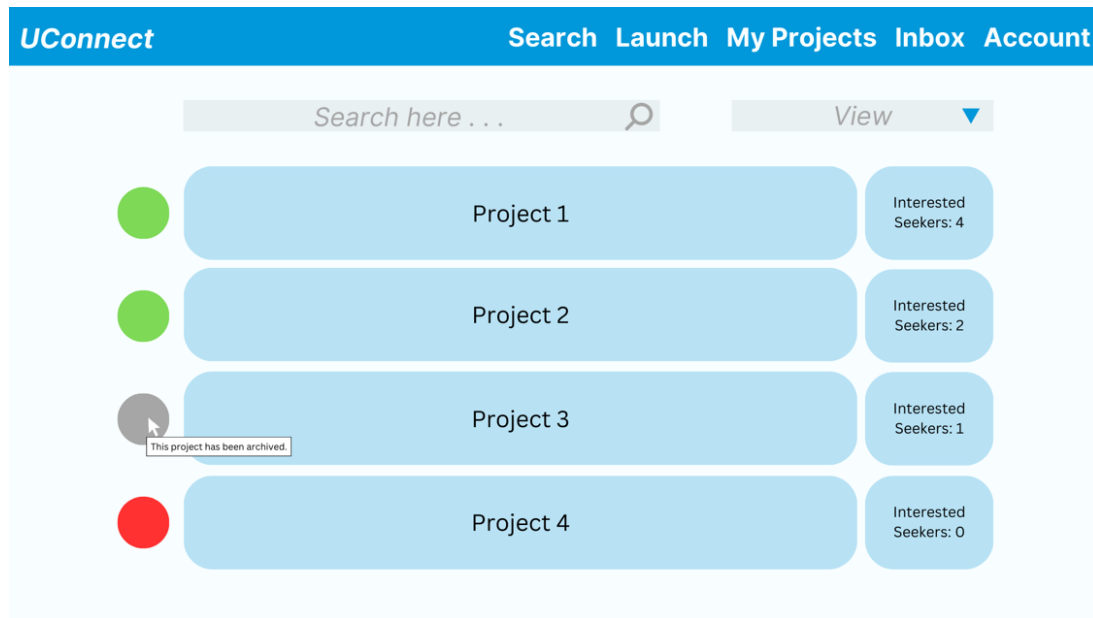
Figure 10: A mockup of the "My Projects" page. An active project is green, an archived project is gray, and a deleted project is red. The number of interested seekers is shown on the right side next to the name of the project.

- Users can act as project seekers.
    o Create personal profiles to describe their skillset.
    o Browse posts from project launchers (see Figure 11).
    o Message users about their projects (see Figure 12,Figure 13).
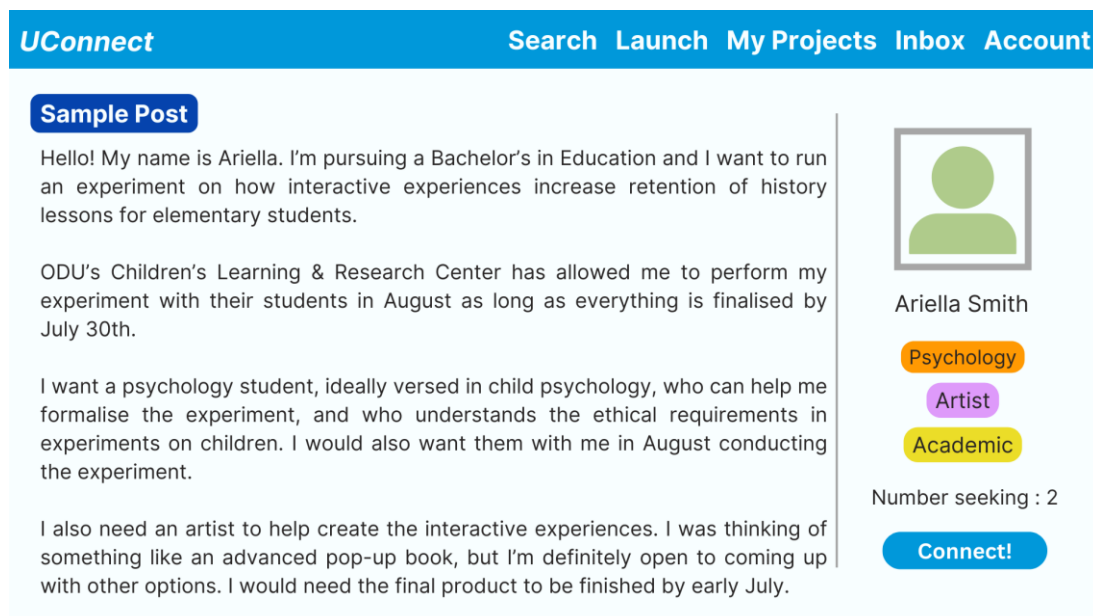
Figure 11: A mockup of a post, from the perspective of a project seeker, on UConnect.
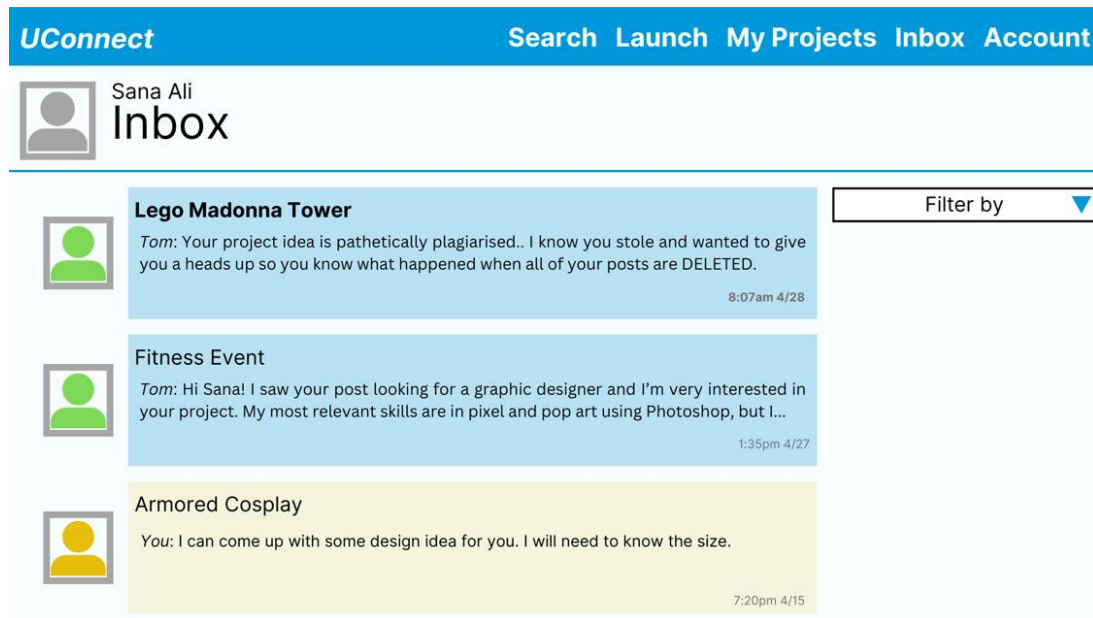
Figure 12: A mockup of a user inbox. A blue message box shows a project the user launched. A yellow message box shows a project the user joined. A new message has a bolded subject line.
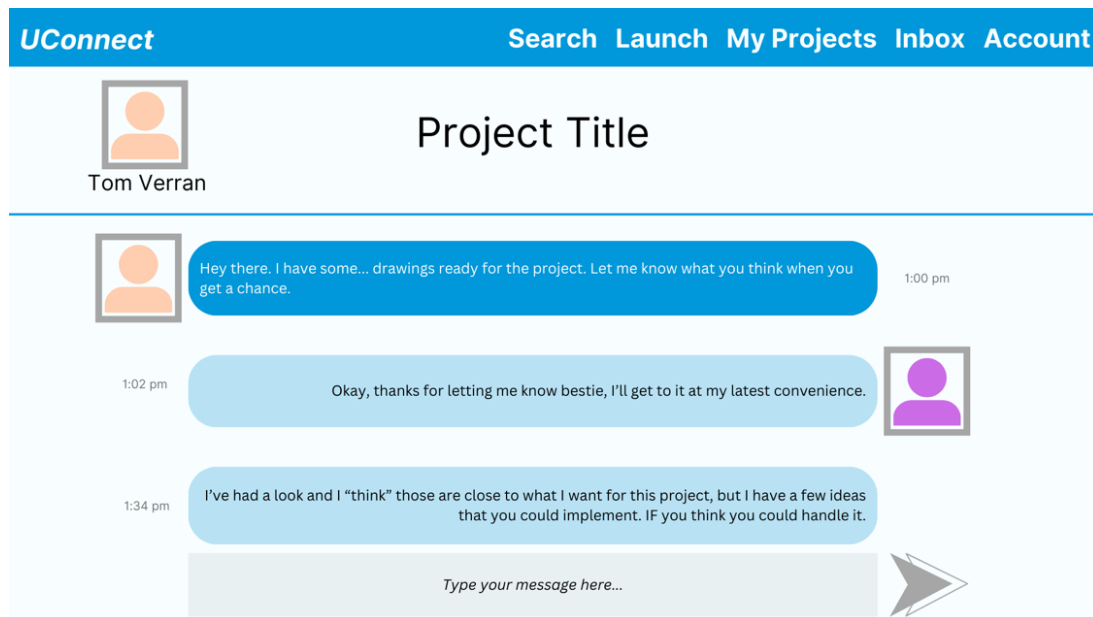
Figure 13: A mockup of two users, a project launcher and project seeker, messaging. The title of the related project is at the top of the message. The recipient is dark blue; the sender is light blue.

- Tagging system
    - o E.g. "graphic design", "psychology", "academic", "short-term" etc.; describe general areas of expertise/skill or project characteristics.
    - o Can be applied to user profiles (highlight areas of skill/expertise).

- o   Can be applied to project posts (highlight areas of needed skill/expertise or define relevant project characteristics).
- Searching
    - o   Users can use the home page to navigate through UConnect (see Figure 14).
    - o   Users will use search queries to find relevant projects and/or users (i.e. potential team members) (see Figure 15).
    - o   Users can use various filters, or search by tags and/or keywords.
    - o   Not a matchmaking service (cannot match students to other students).
- Reviews
    - o   Users can leave reviews on profiles of other users that they have worked with.

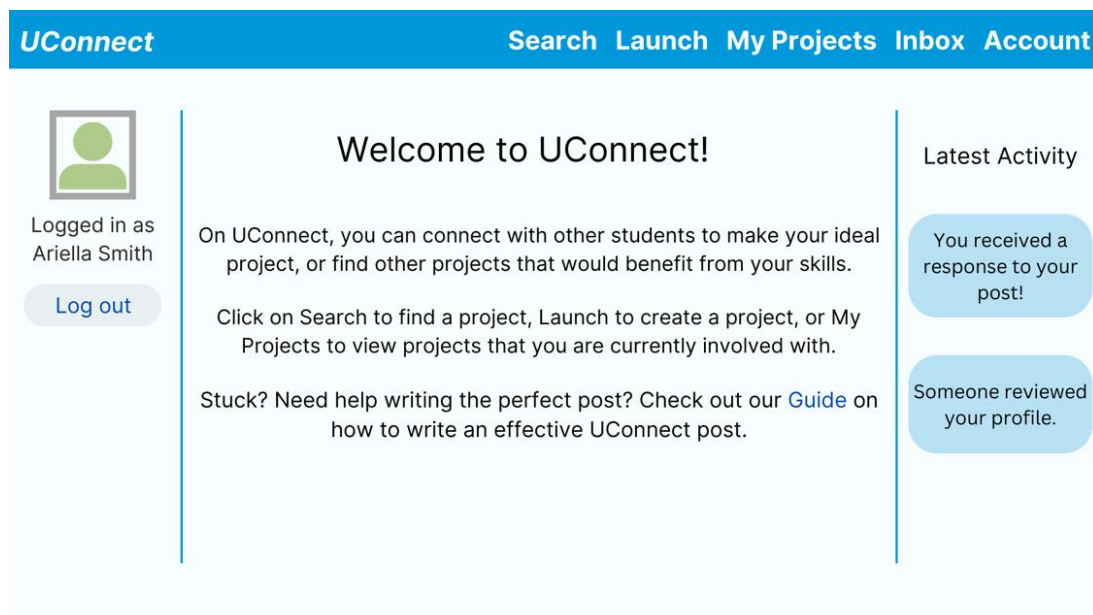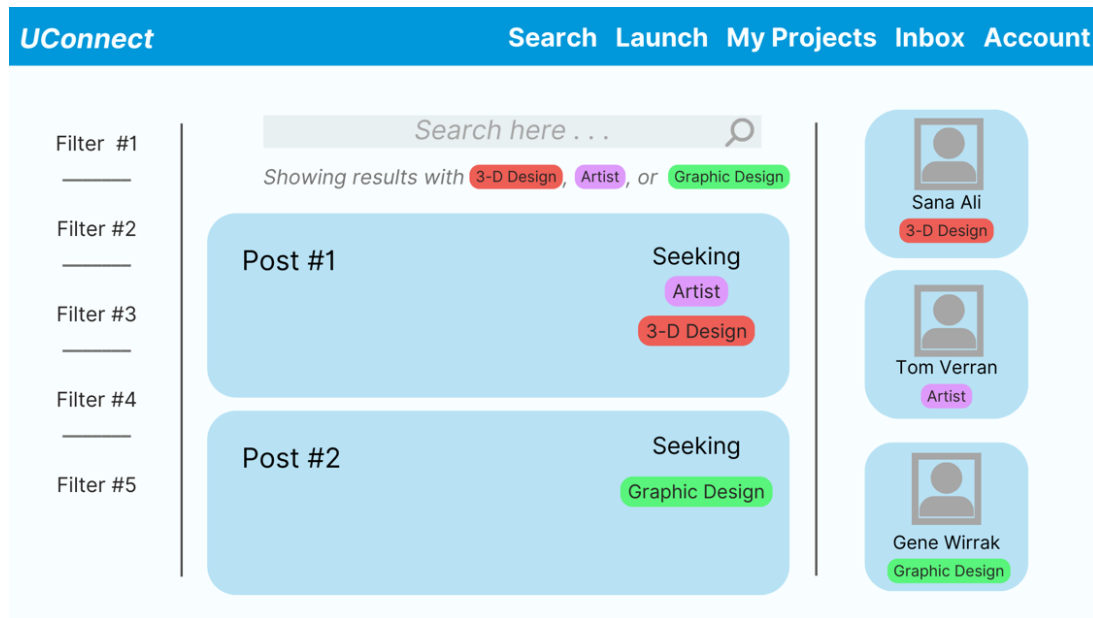*Figure 14: A mockup of the UConnect homepage after a user has logged on.*

Figure 15: A mockup of UConnect's search page, after making a search for the tags "3-D Design", "Artist", and "Graphic Design"

2.2 Major Components (Hardware/Software)

- Django for web development
- PostgreSQL for databases
- OAuth for user authentication
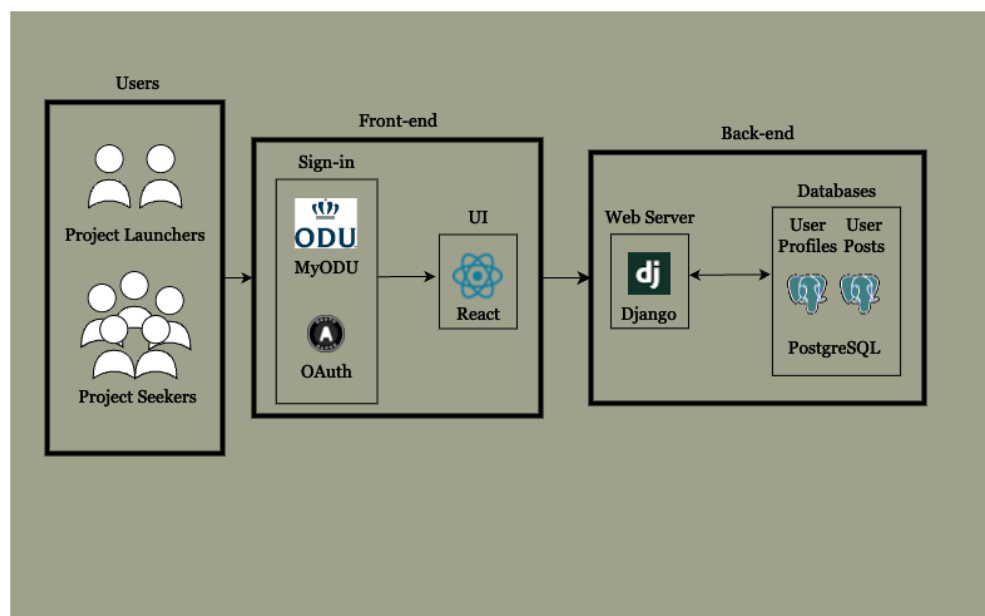
Figure 16: Major Functional Component Diagram for UConnect

3 Identification of Case Study

UConnect's users are students actively enrolled in a college, university, or other institution of higher education. UConnect's customers are university administrators.

4 Glossary

Project Launcher: User who has a project they are interested in recruiting students to work on

Project Seeker: User who is interested in using their skills to contribute to a project

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