

Running Head: Lab 1 Draft – UConnect

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Lab 1: UConnect Lab

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CS 411W

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Version 1

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1 Introduction

Currently society is faced with an ever growing and ever problematic issue regarding an individual's ability to obtain a job. Lately the experience standards have become higher and higher, and the qualifications that should absolutely be enough, especially Bachelor's degrees and further education, are not enough to score a stable job position. While plenty of students want ways to be able to utilize their skills, add to their accomplishments, and collaborate with peers to add to their potential to be hired, a lot of the time these students do not have an accessible opportunity to be able to seek out other like-minded individuals. The solution to this dilemma is to create a service that allows students who have similar interests or need the skill set of another student to be able to properly find each other and utilize their skills.

In a study by Veera Korhonen, the total percentage of high school and college graduates is steadily increasing over the years, showing that the demand for opportunities is growing more every year. This study's findings of the increase are represented in Figure 1.

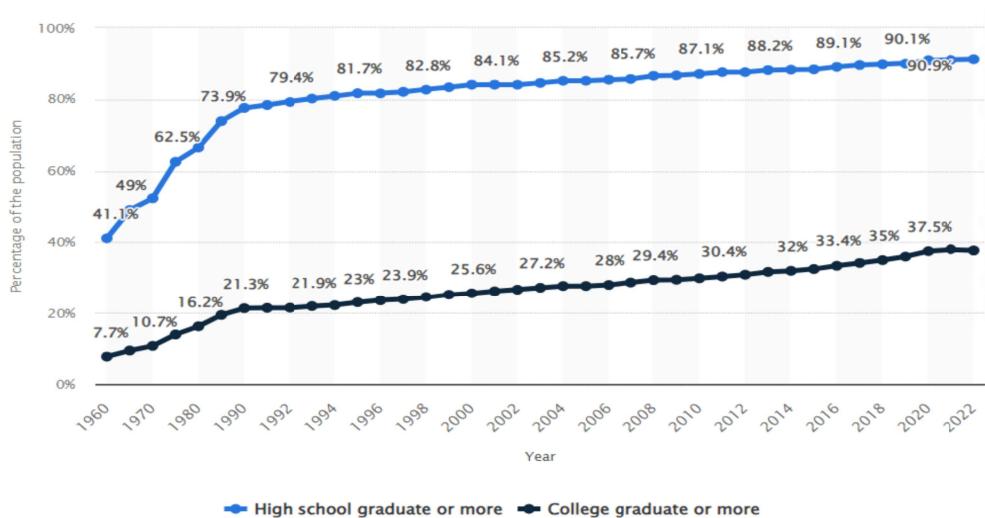


Figure 1: Graph of enrollment increase from 1960 - 2022 (Korhonen, 2023).

While some studies, such as a study performed by Sarah Zehr in 2016, showed that a majority of students had internship experience by the time of graduation, in Zehr's case around 75% (Zehr, 2016), other more recent studies have shown that this percentage is far lower now. In the more recent 2020 study from Kapoor and Gardner-McCune, these numbers are much lower than the previous percentage of 75%, all the way down to 40% on average. The distribution of their findings is displayed in Figure 2. Note that the right most bar graph includes only two of the many genders and does not include data for the larger gender spectrum. This means that the information may lack accuracy or full coverage in some regards.

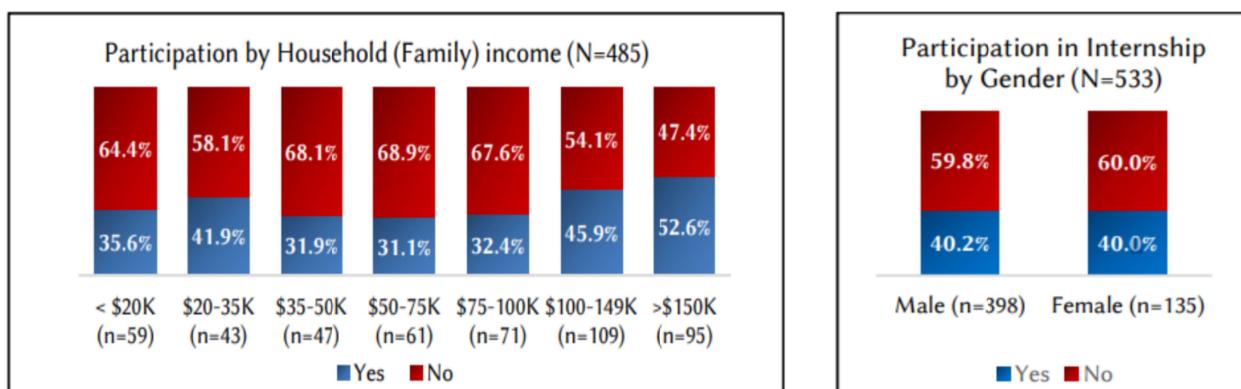
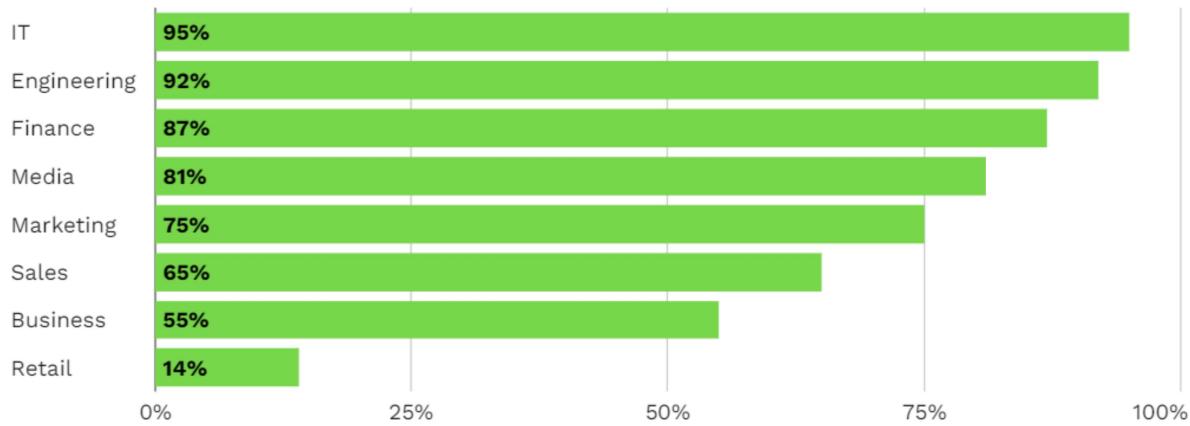


Figure 2: Participation in internships by household income and by two, of many, genders.

The information previously mentioned coincides with another issue present: experience inflation. Experience inflation, an occurrence also explored by Verve Search, with Hannah Salton, showed that as the days continue and the job market becomes tougher to enter, there is also an increase in actual experience requirements, rather than just a degree, from jobs to obtain a simple entry level position. The findings of the aforementioned exploration are shown in Figure 3.



Data based on 50,000 "graduate-level", "junior-level", and "entry-level" job listings on UK and US versions of Indeed and LinkedIn.

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).

The current process for students who are looking to collaborate with other students is extremely difficult and frankly not efficient at all. They must either hope that they can find a way to contact a group that involves people who could be interested, or go out of their way to find others throughout all social medias who may be interested in their project, and that does not even guarantee a response. This creates a potential infinite loop of finding people who could be perfect for a role, but no response leads to students having to continue the search, this is further displayed in Figure 4.

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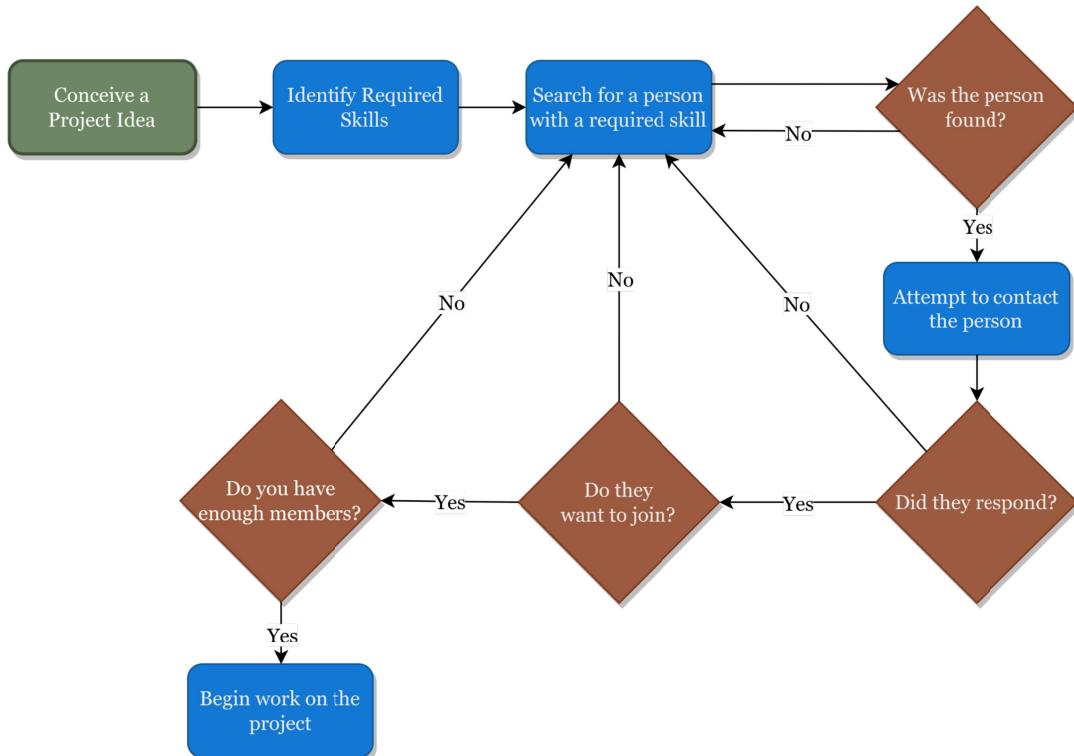


Figure 4: Current process flow for project launchers.

For students who are searching for experience to add to their portfolio and accomplishments, they face extremely similar issues to project launchers (expressed by Figure 5). Many may have trouble finding traditional jobs or internships that fall within the requirements that they can match, and searching for projects created by their peers through as many social platforms as possible is just as hard. This search, again, does not even guarantee acceptance to the people they do reach out to.

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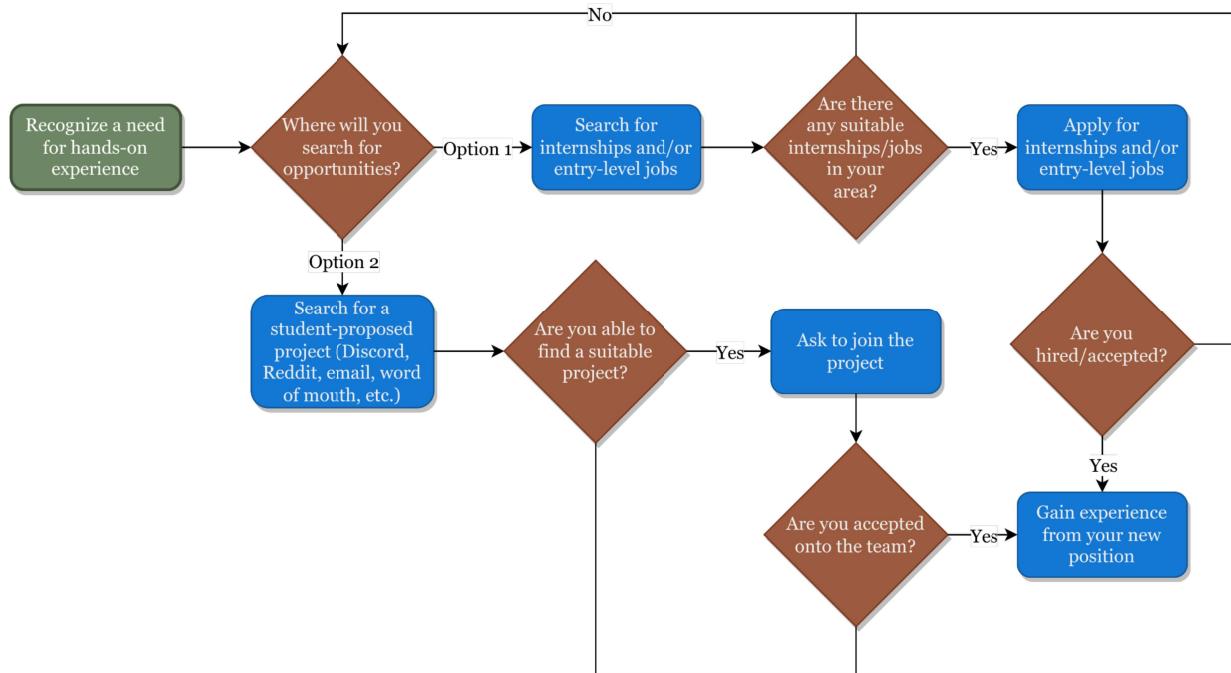


Figure 5: Current process flow for project seekers.

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2 *UConnect* Description

The perfect solution to the aforementioned issues is UConnect. UConnect will be a web-based application that will allow students to find each other and collaborate on projects in a much more accessible manner. This will allow students plenty of opportunities to contribute to work that they can use to build a resume.

UConnect will split students into two non-mutually exclusive categories, which will be referred to as “Project Launchers” and “Project Seekers”. “Project Launchers” are students who make posts seeking other students to work on a project collaboratively with them, listing needed skills or knowledge that would be utilized for the project. “Project Seekers” are students who will browse posts to look for an active project to join via reaching out to Project Launchers. Note that these two categories are not exclusive of one another, and a student can be a Project Launcher and Project Seeker simultaneously for different projects. The organization of this system removes the need to advertise or search for a project for all students involved, with the process flow for Project Launchers being shown in Figure 6 and the process flow for Project Seekers being shown in Figure 7.

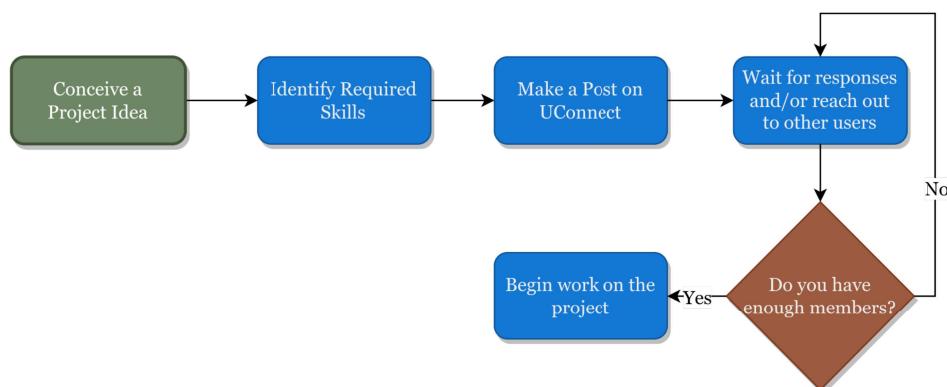


Figure 6: Solution flow of a project launcher.

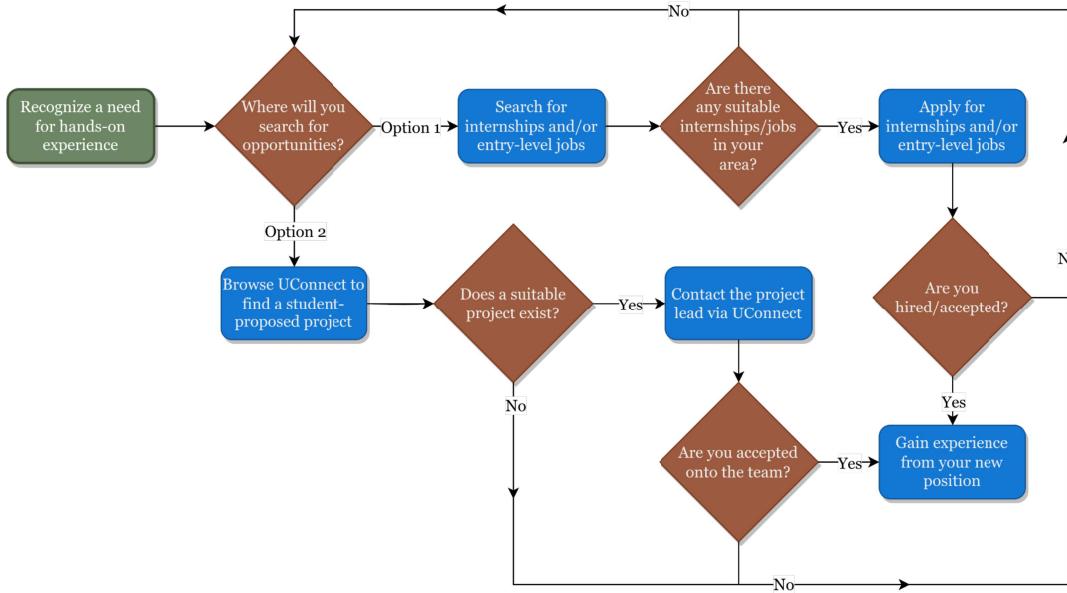


Figure 7: Solution flow of a project seeker.

2.1 Key Product Features and Capabilities

Using UConnect, users will be able to be Project Launchers by creating their own posts to advertise projects for which they wish to recruit other students. The future vision for how this process will look to a Project Launcher is shown in the post creation mockup displayed in Figure 8. Project Launchers will be able to analyze and view individual students, their skill sets, and their past UConnect reviews via a user profile section, displayed in Figure 9, which Project Seekers will be able to customize to portray all of their relevant information, adding special searchable tags for the skills that they wish to utilize.

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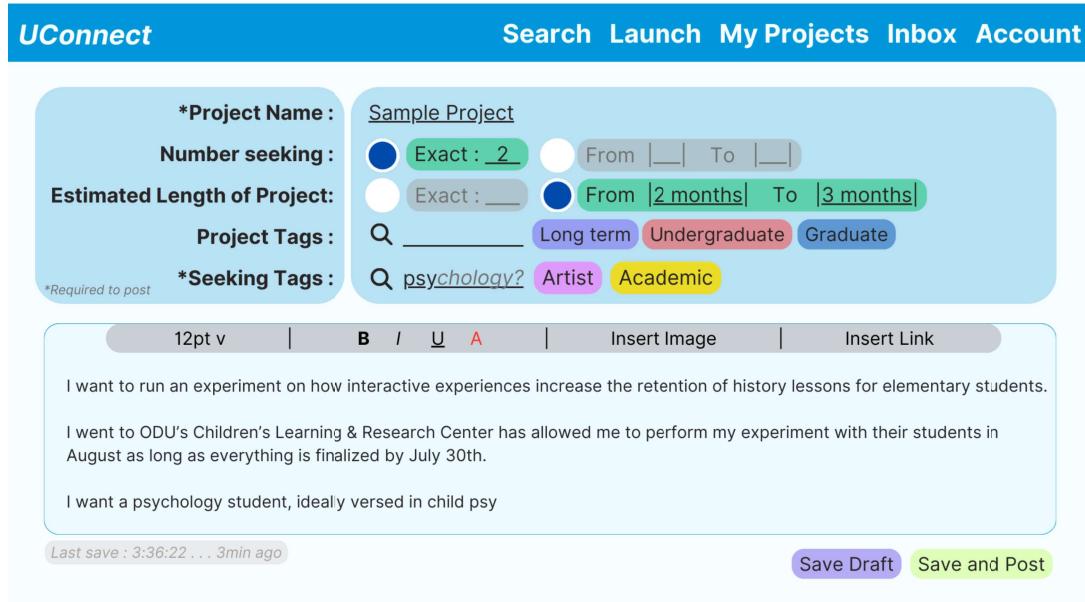


Figure 8: A mockup of a project launcher creating a post on UConnect.

The mockup shows a user profile page for 'Tom Verran' on UConnect. At the top, there's a navigation bar with 'UConnect' on the left and 'Search Launch My Projects Inbox Account' on the right. Below the navigation is a profile picture placeholder and the user's name 'Tom Verran'. To the right of the name is a 'Biography' section containing a message from Tom about his passion for video games and pixel art. Below the biography is a 'Skills' section with buttons for 'Artist', 'Pixel', 'Pop Art', 'Logos', 'Flyers', and 'Animation'. A 'Filter by' button is located below these skills. Below the skills is a 'Reviews' section. It contains two reviews: one from 'Gene W.' and one from 'Sana A.'. Gene W.'s review is about a two-week project involving pixel art for 4 32x32 characters in all stages of walking, with the word 'Pixel' highlighted. Sana A.'s review is about a flyer for a fitness event made through three iterations, with the word 'Flyers' highlighted.

Figure 9: A mockup of a user profile on UConnect.

The projects created by Project Launchers will be organized to keep track of in a separate “My Projects” page, portrayed in Figure 10. This page will show active projects in green, deleted projects in red, and archived projects in gray, with the active number of interested Project Seekers displayed to the right.

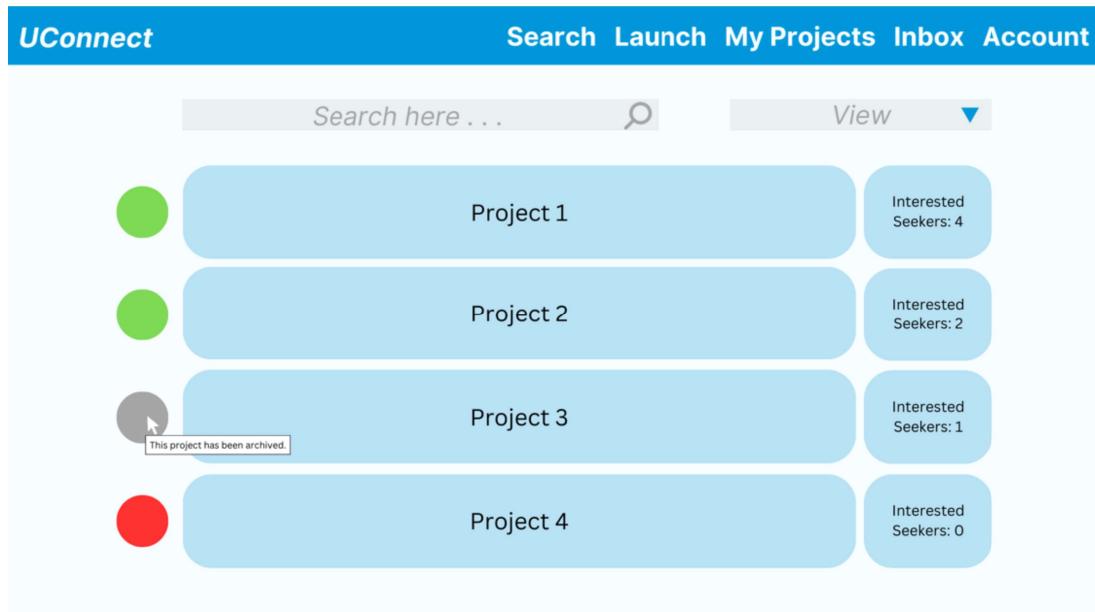


Figure 10: A mockup of the “My Projects” page. An active project is green, an archived project is gray, and a deleted project is red. The number of interested seekers is shown on the right side next to the name of the project.

Project Seekers will be able to browse posts made by Project Launchers to determine if their skill set matches what the Project Launcher wants for their project. Once the Project Seeker has found a project that they are interested in via searching with tags that are included within the project description, they will be able to message Project Launchers about the projects and get updates about what is needed and requested. An example post from a Project Launcher is displayed in Figure 11, an example inbox can be seen in Figure 12, and an example message exchange between a Project Launcher and a Project Seeker is displayed in Figure 13.

UConnect Search Launch My Projects Inbox Account

Sample Post

Hello! My name is Ariella. I'm pursuing a Bachelor's in Education and I want to run an experiment on how interactive experiences increase retention of history lessons for elementary students.

ODU's Children's Learning & Research Center has allowed me to perform my experiment with their students in August as long as everything is finalised by July 30th.

I want a psychology student, ideally versed in child psychology, who can help me formalise the experiment, and who understands the ethical requirements in experiments on children. I would also want them with me in August conducting the experiment.

I also need an artist to help create the interactive experiences. I was thinking of something like an advanced pop-up book, but I'm definitely open to coming up with other options. I would need the final product to be finished by early July.

Ariella Smith

Psychology
Artist
Academic

Number seeking : 2

Figure 11: A mockup of a post, from the perspective of a project seeker, on UConnect, with shown tags for the project on the right

UConnect Search Launch My Projects Inbox Account

Sana Ali
Inbox

Lego Madonna Tower
Tom: Your project idea is pathetically plagiarised.. I know you stole and wanted to give you a heads up so you know what happened when all of your posts are DELETED.
8:07am 4/28

Fitness Event
Tom: Hi Sana! I saw your post looking for a graphic designer and I'm very interested in your project. My most relevant skills are in pixel and pop art using Photoshop, but I...
1:35pm 4/27

Armored Cosplay
You: I can come up with some design idea for you. I will need to know the size.
7:20pm 4/15

Filter by ▾

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.

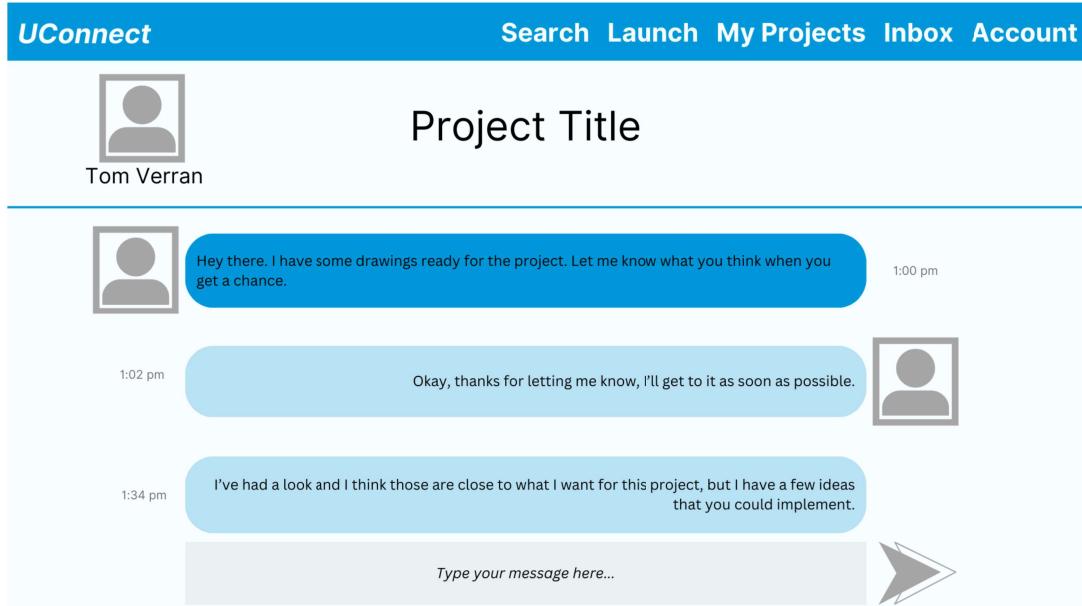


Figure 13: A mockup of two users, a Project Launcher and a Project Seeker, messaging. The title of the related project is at the top of the message. The recipient is dark blue; the sender is light blue.

All users of UConnect will be able to navigate the website via the home page, which will prompt the user with options that they can select, shown in Figure 14. Among the many options available on the home page, search is one of the most important of which. Clicking this will allow users to search, using various tags or keywords, for relevant projects and/or users that they can collaborate with on a joined team, shown in Figure 15. It is very important to note that UConnect will not act as a matching service between student to student, but is primarily focused on helping others find projects that catch their interest.

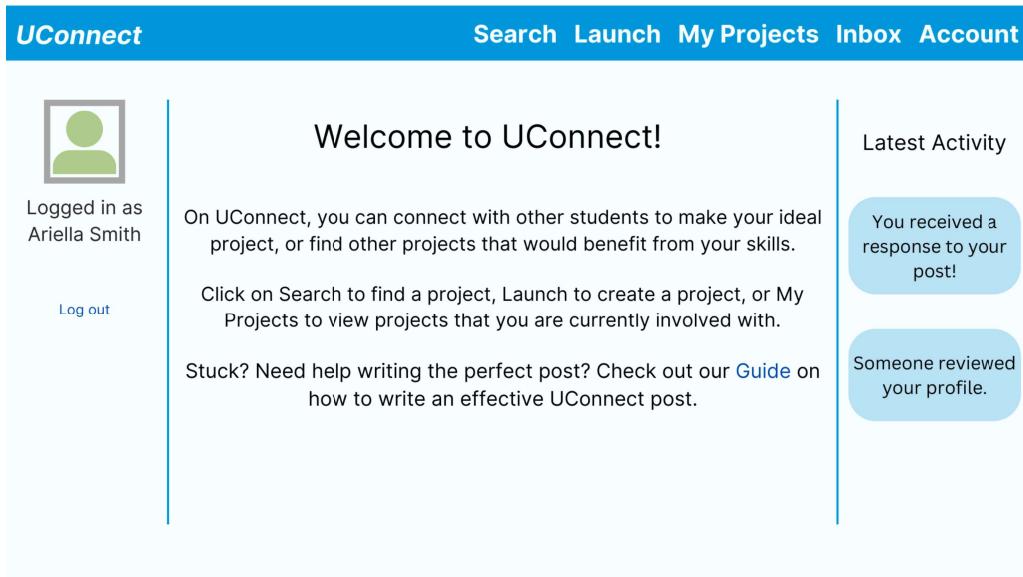


Figure 14: A mockup of the UConnect homepage after a user has logged on.

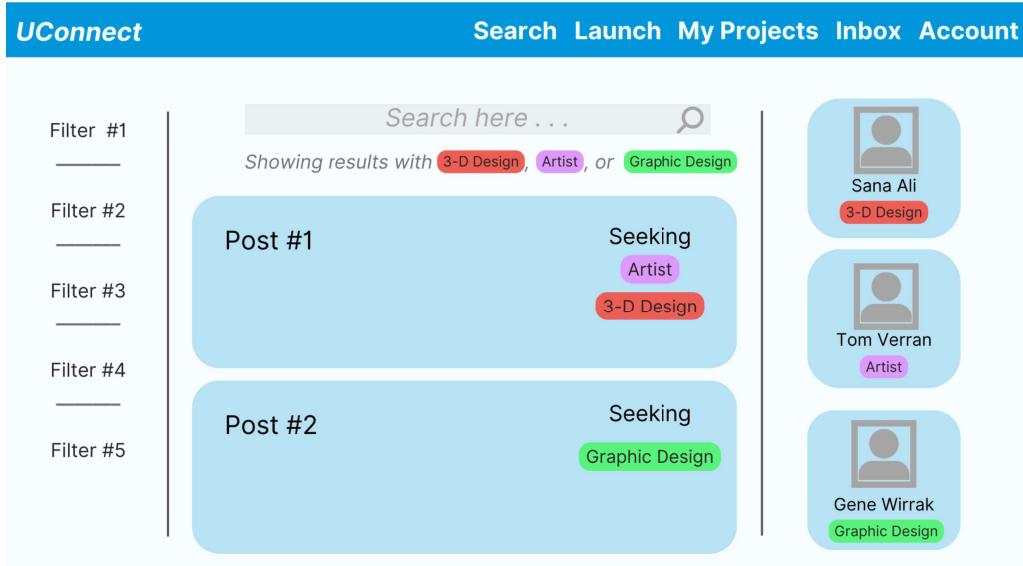


Figure 15: A mockup of UConnect's search page, after making a search for the tags "3-D Design", "Artist", and "Graphic Design"

2.2 Major Components (Hardware/Software)

The major functional components that UConnect will utilize involve a series of authentication, database, and web development components. The authentication for the web application will be Django, which will be used in the back-end for the web server. The database utilized will be PostgreSQL to handle the organization and storage of user profiles and user posts. The authentication method, to be sure that the user is who they say they are and disallow any unauthenticated users to gain access, will be OAuth, which will be used on the front-end for an additional layer of security for the web application. The compatibility and combination of these functional components are further shown in Figure 16.

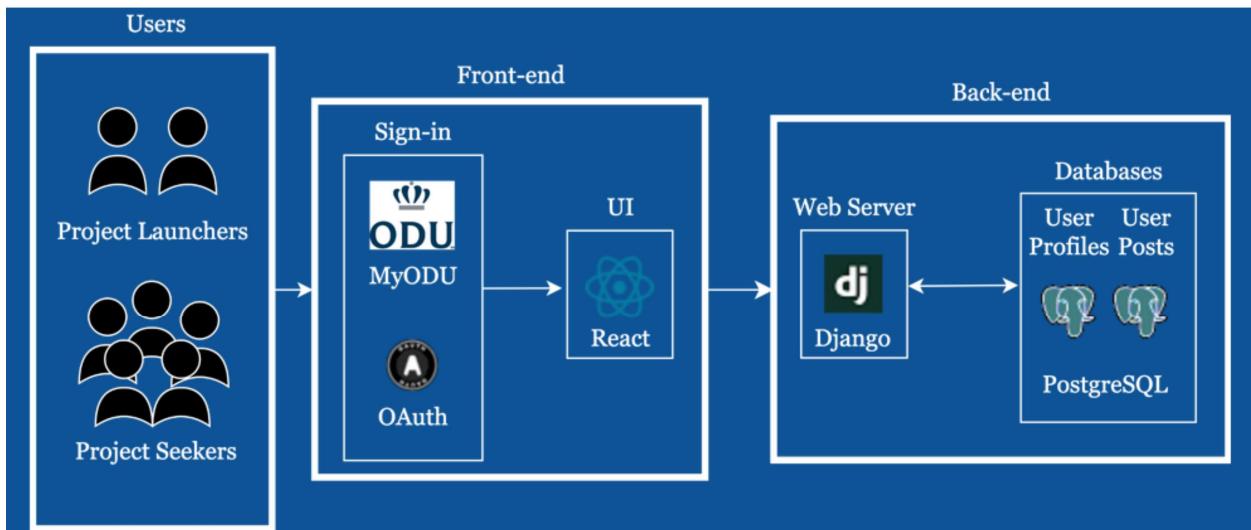


Figure 16: Major Functional Components Diagram for UConnect.

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3 Identification of Case Study

The web application UConnect is being developed so that students may find other students who are interested in similar projects. It has been represented in Section 1 that the need for students to obtain experience to enter the workforce is at an all time high, with opportunities being at all time low. UConnect will allow collaboration between students to gain access to practicing skills and adding to resumes in ways they previously would have had much more trouble performing.

The future users of UConnect will involve not only students, but also universities to utilize this resource for their students. As the web application becomes apparent to universities, the implementation of it in many schools will allow students from any university to connect with other students and work on similar goals.

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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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