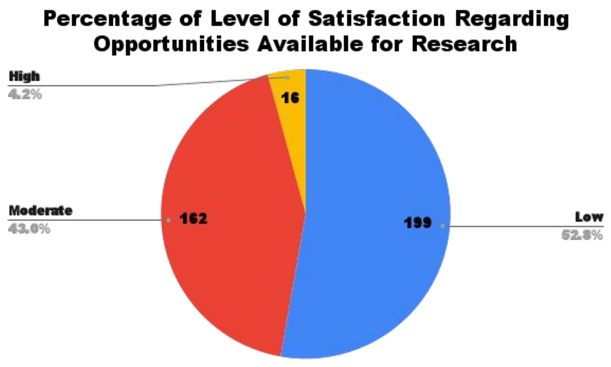
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INTEGRATING ALGORITHMIC DEVELOPMENT TO RESEARCH RECRUITMENT: BUILDING A NEW SYSTEM

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Introduction

Research has long been a important part of academia and students' academic journey. Aside from clear correlation associated with increased success, knowledge and grasp of material through research for students involved; research has been championed as a way to decrease the gap in the number of underrepresented minority (URM) students in science.



However, finding research opportunities on a campus is not easy; and finding the perfect position for both the student and a lab is even harder. Cornell University for instance, has reported only around 27% research credited to undergraduate students. This is mainly due to the fact that current systems for research recruitment are highly inefficient; leading institutions like Princeton University to address this issue with new platforms that eases the process and incentivises research involvement and recruitment.



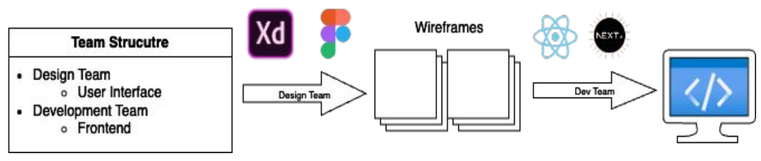
Objective

We are aiming to create a highly efficient platform, utilizing latest Human computer interaction (HCI) principles in the design, as well as cutting edge programs and algorithms in the backend, to assist students with shaping their future, and academic path.

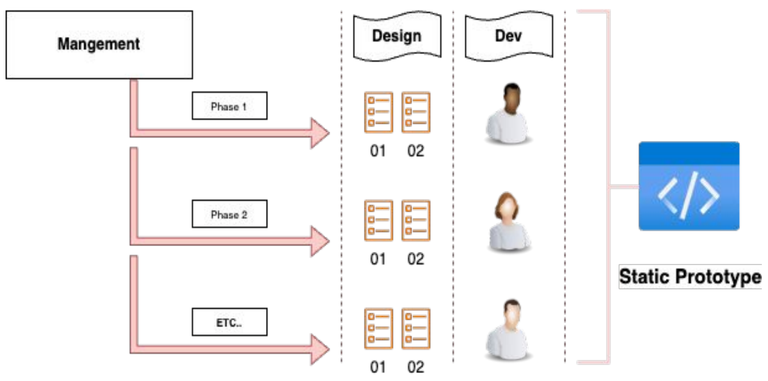
Our platform is designed to study **how a highly efficient system can incentivize recruitment and seeking research in campus.**

Development Methodology

Our frontend team was formed with User Interface and frontend development capabilities. Designers Used Figma/Adobe XD for wireframes, which guided the frontend development in React/NextJS.



The design was divided into individual tickets assigned to individuals for development, and then merged weekly; with focus on new designs, redesigns and guided debugging.

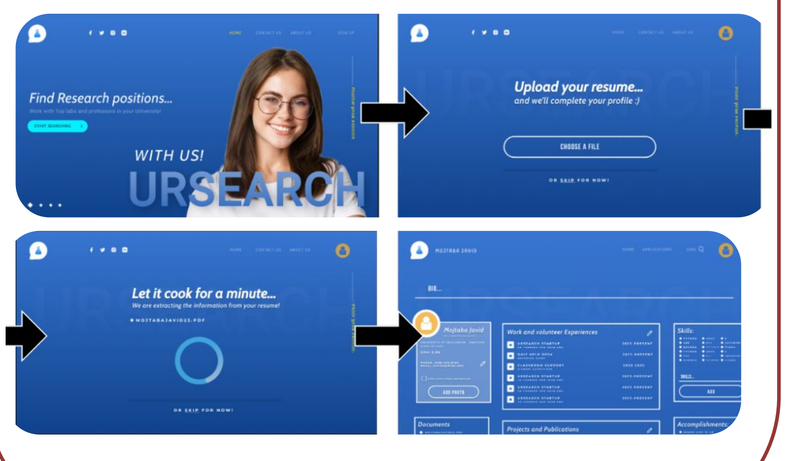


Simultaneously backend development was done on creating the database management system, and core algorithms and programs such as: Parser and matching programs.

Testing & Results

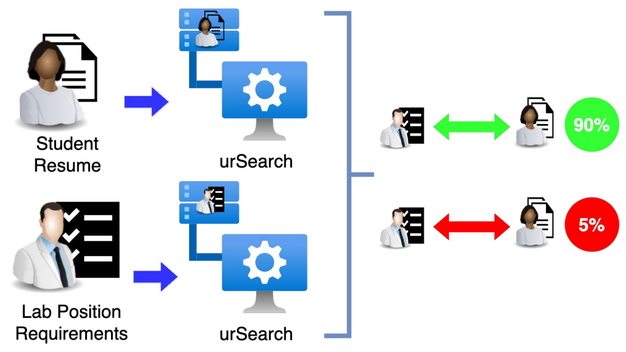
Contextual inquiries (CI) were conducted to optimize HCI practices within our design. In our largest CI (n=40) users: a) Expressed desire for better color schema and distinction between users types. b) Improved design language of selected pages. The users were then surveyed on our **"About You" functionality**, which aims to eliminate the introductory interviews to expedite recruitment. ~90% users found it highly desirable, and rest of the users were neutral.

Prototype based on user feedback was completed on Figma. Mimicking **key algorithmic functionalities such as resume extraction, profile generation, and matching.**



Matching functionality code was also tested through a hiring process (n=30). Profiles of the candidates were fed into the program with set preferences, and a sorted list of "best to worst fit" was produced by the algorithm.

Simultaneously, traditional interview process was carried out, and 3 top candidates were selected. This selection was compared against the matching algorithm results; revealing the algorithm's 93% accuracy, with our selected top candidates through traditional interviews, being the same as the top 3 best matches produced by the algorithm.



Conclusion

In developing functionalities such as **easy profile parsing** using html/resume input, **"About You" video function** which gives the applicants reflect on truly what they bring to their future workplace, and **matching algorithm** which matches the best candidates to the best opportunities with high accuracy, we prioritized **ease and efficiency** in our platform.

Though our primary tests showed great promise in our development path and functionality of our futures toward simplifying and expanding the reach of research opportunities, further testing is needed and planned to study this platform, aiming toward greater inclusion and availability for all students seeking research.

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