

Pioneering New Systems for Research

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urSearch is a web-based service that takes an innovative approach to increase the fruits of research. Through the usage of machine learning and algorithm development, urSearch makes obtaining research as a student and lab recruitment quick and simple. The objective of this project is to construct an MVP (minimally viable product) that will be tested by the Ricke Lab and Department of Urology for expansion into other laboratories.

To develop urSearch, a team with user interface (UI) design, frontend and backend capabilities was assembled. Figma was used to design wireframes to guide the frontend built through React. During the design process, contextual inquiries were conducted with 2 potential users. The inquiries tasked the subject to navigate the website and provide feedback on its user friendliness. Subjects of interest were determined based on their involvement in research and their education level. The backend code was implemented within the Django platform, incorporating extensive research on best suited data structures and algorithms for the implementation of the most crucial algorithmic functions. Development demonstrations were regularly presented to various members in the Department of Urology and University administration, as well as members of other departments in forms of surveys and functionality tests, allowing the integration of feedback and perspectives of potential users.

Upon initial usage in the Department of Urology, urSearch expects to accomplish 2 major marks. First, increasing the number of qualified applicants to the laboratories affiliated with testing. Secondly, the affiliated laboratories will have a faster selection process as urSearch is a service for lab recruitment as well. In the long-term, assuming growth continues, urSearch can be used campus wide by research administration. In doing so, students of all academic levels, such as graduate students, will be encouraged to use urSearch as the main system for finding research positions tailored to their skills and interests. As a result, the level of involvement for students in research will increase, maximizing scientific discovery. Lastly, urSearch will remedy the dominance of select research departments by giving a platform to smaller research departments, providing more representation.

Research yields innovation and discoveries that change tomorrow. Yet, currently, there is a lack of standardization and ease to get involved in research as a student. Therefore, it is imperative that a system that makes obtaining research more efficient and more effective is implemented into research institutions. Further studies are needed to develop research institution job websites.