Abstract

Utilizing knowledge of ASP.NET and Angular, as well as the principles of ACCTMMIS 3610 this application has come about to search through a faculty database. This application can be modified to search through several attributes including name, department, ethnicity and more to bring about transparency in any organization.

OSU Faculty search

ACCTMIS 3610

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**Purpose:**

“White, male faculty earn higher salaries than women, minorities at public universities” (Ordway). This is a headline all too familiar to our generation. With the use of information and code one is able to utilize data to shine light on many issues that were the unspoken truths of the world. Today’s society is one where equality was not birth given, where income disparity was the norm and where your sex determined whether you received a job or not. The difference from times of the past and now, are that one is now able to recognize the truths and act as needed. This progressive set of ideologies have become crucial for any organization to be in good standing with the public. Organizations have adapted a public portal or application for outside users, as well as for members of their community, in hopes to create transparency.

The Ohio State University also joined this initiative, not so long ago. The searchable application came about last year after there were several requests made the year prior. Susan Basso, the senior vice president of that time stated, “As a major Ohio employer and one of the nation’s largest universities, it makes good sense for Ohio State to give the public easy access to some of its most sought-after data” (Daugherty). With the support of the university and the public, this application could now bring about any potential discrepancies lingering in faculty diversity and equality.

The US Equal Employment Opportunity Commission (EEOC) holds an important role when it comes to upholding the principles of diversity and equality. EEOC is legally responsible to enforce federal laws to make it illegal to discriminate against a job applicant or an employee based on sex, color, religion, origin, and age. They primarily enforced such laws when complaints where given. However, with faculty search engines there is no need to wait for issues to arise. Potential problems can be addressed head on.

This transparency benefits regulators and the community. The OSU search engine allows faculty and future employees to set their own expectations, and for students it allows them to find applicable advisors. The search engine can be utilized for many reasons, including curiosity but all these reasons are categorized under the idea of transparency.

While this reason is derived through design thinking, systems thinking was heavily considered to make this application a reality. Utilizing ASP.NET and Angular, the design that we envisioned was possible. This architecture structure will be discussed next.

**Architecture**:

The OSU faculty search engine was designed to be used by users of all skill levels and of all different purposes. For these reasons the engine provides multi attributes to diversify the search and to make statistical analysis easier for the user. Users alike will be able to navigate the application to gain the results they need from the database.

The design of the application is straightforward. The portal asks the user for a name to search through the database and from there a list of attributes are presented to the user. The clean, sleek look with high level describers or labels allows the application to be usable for everyone. Attributes include name, college, department, organization, title, annual salary, hourly rate, ID, sex, race, ethnicity and for fun spirit animal. The data utilized in the application are for the most part accurate, however the attributes: sex, race, ethnicity, and spirit animal are randomly assigned. Future modifications would enable the user to search through several traits and therefore can be more useful to different users. Users such as administration can utilize ID to simply get their results while as the EEOC can utilize race and ethnicity and students can utilize their professor’s name. New features would be included in navigating through the database, this includes scroll down menus, check boxes, and more. The simplicity of the drop-down menus as well as the ease to simply type in a name enhances the experience. As it accounts for users who are aware of what they are searching for compared to those who don’t. In addition, the number of clicks is limited as it depends on the number of criteria the user has plus the search button for the future. For now, the clicks are very limited, as the user simply needs to enter the name and click search. From there the results are presented.

Since the database does not contain high profile information, there is no need to restrict information depending on user. However, if future modifications to the database occur this should be part of the architectural decisions. For example, if addresses, numbers, social security information were uploaded to the database, for other statistical purposes these should be restricted. The database is expected to grow, and the system should be able to sustain itself with this growth.

For the architecture for this application it was necessary to make sure it was functional, reliable, usable, and hopefully delightful. The application is based off web architecture where there is an interaction between the client and the sever through a request and a response. Catching the requests of search criteria and in return responding with the results is how this application runs. Frameworks help build web applications, and specifically for this application ASP.NET and Angular are those frameworks.

The application utilizes ASP.NET core to run in the background. ASP.NET handles both the controllers and models, all while connecting to the database. This base is what Angular works off of to bring about the website functionalities. It creates separate models and HTML in order for the response to sent from the server to the client.

**Outcomes:**

The application’s sole purpose is to create transparency. This is achieved by simply putting the data in a well-designed format, which the application does. So, in terms of success, the application can improve in how it is presented, the ease of use, and future modifications for the data to be better visualized and analyzed. Success is then simply how user friendly and compatible it is to the database.

First and foremost, it is important for the data to be delivered to the user in a fast and clean fashion so that the maximum number of users can utilize the tool. Measurement in the number of users can reflect how beneficial the tool is and if users are satisfied with the application’s usability. We can measure compatibility and efficiency of the application by measuring the speed at which results are delivered. This measurement can be faster by reducing the number of HTTP requests, reducing number of unnecessary dependencies (mobile-first coding), trying a content delivery network, and more.

However, the success is more defined by the physical outcomes this system could bring out for this specific application. Success is having equality and diversity present in an organization and having a clearer way for the EEOC to enforce federal laws of suspicions of discrimination.

Works Cited

“White, Male Faculty Earn Higher Salaries than Women, Minorities at Public Universities.” *Journalist's Resource*, 15 Sept. 2017, journalistsresource.org/studies/society/education/faculty-college-salaries-demographics-minorities-research/.

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