Protect Penn-Trafford

Executive Summary

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Background

Protect Penn-Trafford (Protect PT) is a nonprofit organization committed to protecting Penn-Trafford and surrounding communities from the harmful environmental effects of gas development. They are a community-based organization that engages in education and advocacy work to ensure residents' safety, security, and quality of life. To achieve this, Protect PT follows the ELM approach to civic engagement; educate, legally empower, and monitor. Protect PT educates by hosting educational events and offering mentorship to individuals and communities facing environmental issues caused by unconventional gas development and its infrastructure. To legally empower, Protect PT objects and appeals against oil well pad plans in hearings. Protect PT and its members also continue to monitor the community area through its mobile-responsive web application where people can report environmental violations near them.

Project Description

Project Opportunity

Fracking companies often break the requirements, set forth by themselves, that prevent noise, air, light, and other disturbances and inappropriate practices that influence nearby citizens. Due to this, Protect PT would like to impeach and discredit fracking companies' operator testimonials about the safety of fracking companies' practices by retrieving historical examples where these companies have infringed upon their witnesses' requirements. By doing so, these operator testimonials will likely be monitored more closely to ensure they are not breaking more rules. By having these companies be more mindful of their environmental requirements, Protect PT can better ensure the well-being and life quality of the residents in the Penn-Trafford area.

Project Vision

Our project vision was to create a working prototype of a web application that displays operator testimonies that have previously resulted in environmental harm in a database table format. The application would display information about operator testimonies, and related data, such as the engineer who created the plan, whether the plan failed and why, and more. Through the application, users would also be able to input new operator testimonial data. The application and its data should only be accessible by authorized users because if fracking companies gain

access to the data, it would no longer be useful to Protect PT and similar organizations and individuals trying to impeach fracking companies' testimonials.

Project Outcomes

The primary outcome of this project was a web application prototype. The web app allows users to enter, view, and search information related to energy projects, such as violations or permits. Additionally, our team created an initial ERD based on the discussions with Protect PT that serves as a foundation for future development. High fidelity wireframes were also produced to guide future front end development. Documentation about the technology was created which explains the progress made and what is left to implement. Finally, our team gave several demonstrations of the web application to our organization, ensuring its ease of use and understanding.

Project Deliverables

The main deliverable besides the web application was the project's GitHub repository which included the source code and documentation. The repository includes technical documentation detailing the decisions made during development and a README that describes how to use the application. We also included our ERD and Figma high-fidelity prototype to guide future development.

Recommendations

Our main recommendation for Protect PT is to fully develop a formal process for building an impeachment case. Although our team and the organization began this process, it is nowhere near the level ProtectPT aspires it to be. Once this process is clearly defined, development can resume from our prototype and documentation. Additionally, Protect PT should begin thinking about data entry practices. While our application validates entered information, it was only based on the limited clarification we received. We strongly recommend data entry practices be clearly defined before development resumes. Finally, our frontend is functional for the prototype, therefore it is very simple to navigate. However, once the application is fully developed, ProtectPT should reach out to its target users, such as lawyers and lobbyists, to ensure the UI continues to be easy to use.

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Student Consulting Team

Clara Lam served as the project and client relationship manager. She is a third-year student majoring in Information Systems with minors in HCI and Business Analytics & Optimization. This summer, she will be joining Nintendo of America as a software engineering intern.

Jason Perez led the front-end development of the web application. He is a third-year student majoring in Information Systems. He will be joining Cisco Systems as a software engineering intern this upcoming summer.

Michael Song led the back-end and middleware development of the application. He is a fourth-year student majoring in Information Systems and Minoring in Business Administration. This winter, he will be joining Amazon as a software engineer.