

**COMP 3450: Human-Computer Interaction**  
**Project Phase 4: Prototyping**  
**Instructor: Dr. Piper Jackson**  
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# High-fidelity Prototype

## Program and Manual

### 1) How to run the prototype

- To run the prototype, simply open index.html file using any web browser, but preferably Google Chrome.

### 2) Instructions of how to use the program:

- Simple scenario

A new user to TRU wants to know if driving to TRU is a good option and wants to find out all parking spaces available at TRU, and so he simply opens up the PARK FREE web portal on any device and sees,

- **Main Page:** Intro to the website (information on Park Free and TRU Parking.)
- **Parking Page:** the users can check parking availability for different lots by choosing a lot from the f=drop down list of Lot and pressing the check availability button to check what % parking spots are Full, users also can help Park Free with the accuracy of the data provided by submitting an accuracy check, simply click the "help us increase accuracy button" and from the new model window choose a lot and provide info on how full the parking lot was.
- **Maps Page:** users can view the parking lots available to them for each of the different passes provided by TRU parking.
- **Info Page:** users have the options to find more information about parking's availability for all types of user's student, employee, and other. Users also have the option to purchase E-permit easily by clicking E-permits they are directly taken to TRU permits purchase web portal, and finally users also have the option to print out the TRU parking map if they to do so.
- **Contact Page:** users have the option to submit and any comments, questions or complaints they might have about the TRU parking.

## Documentation

### 1) Describe the prototype

This prototype was developed using fuzzy logic algorithm and web technologies such as HTML, CSS, JavaScript as a **proof of concept** that we can use fuzzy logic to show the availability of each parking lot by using user inputs. The prototype will accept a value from one of the five available choices, and the fuzzy logic algorithm will determine the outcome based on the current % availability of the selected parking lots.

Unfortunately, we spent unexpectedly too much time into researching the fuzzy logic and the amount of time we took into implementing it was also longer than we expected, and thus we had to make a tradeoff between the accuracy of the algorithm and the overall quality of the prototype. So, to improve the accuracy of this prototype, we can add more fuzzy logic rules so that it will be more integrated, and the users will have more choices (of % full) to select.

## **2) How its design has been improved from user's feedback**

We made a lot of UI improvements based on the users' feedback we've received from Phase #3:

- a. We divide the website into 5 tabs: Home, Parking, Location, Info, contact so that the users will have an enjoyable experience rather than a messy website where everything is in one page
- b. We removed the requirement for inputting the user's first and last names, because some users do not feel like it is appropriate and did not want to provide that information
- c. We enlarged the parking map for each type of parking permit
- d. We made the UI a lot more user friendly by removing all the small stuff and by keeping thing to minimum on each of the pages
- e. We made the web portal more compatible with different screen sizes, as it was a real concern in phase 3 where users were using different devices to test, and the portal was not compacting well.