CISC 3650 - Group 3

3) Written Component: Website Design

1. Having conducted your needfinding and created personas and scenario(s), write a brief synopsis of what your website is intended to do. What problem will it solve, for which group of people? What are the demographics of that group? Why do you think this is an important project?

Our website is intended to provide a way for NYC area commuters to manage their MetroCards online. New Yorkers are always in a rush as is and standing in line to add fares to our cards only makes us even more late. There is no specific demographic beyond that as everyone can benefit from having a way to view and add funds online. Upon conducting a survey, we found that most of the participants were not happy with the MetroCard system. In addition to the simple inconvenience of waiting in line, if you lose a MetroCard, any money that was on it is gone. Tracking funds online will provide an easier way to recover those funds.

2. Include pictures of your wireframes (there must be at least 3, created in Balsamiq). Justify your final design choice: why did you make the design decisions that you did? You do not need to write an answer to every question asked in Section 1 but you must provide a detailed, well-reasoned justification. Some things to include: how did you decide on colors? Placement of items? User feedback? Directions?

Wireframes included as mockup1.pdf, mockup2.pdf, mockup3.pdf

The buttons are consistently placed on the screen. The navbar provides navigation in a location that is familiar. All web sites have a home button on top, PDF readers have page forward/back buttons on a bar on top, etc. Buttons that take user to the next step of an operation are place in similar locations, if not the same one, as the page changes.

The MetroCard number that begins all operations is required as that is the main key that ties all operations together. The custom amount field on the Add Funds screen is not required as the user can choose from a preset list of options. All fields accept only alphanumeric text. Commas to separate, for example, a city from a state are not necessary as those fields are separate. Likewise, fields that accept names do not accept numeric input, and fields that accept numbers do not accept alphabetical input.

An image of a MetroCard is included to immediately signal what this application pertains to. When the user is prompted for a MetroCard number, an image of the back of the card indicating where to find that number is displayed instead. There is no mystery about what the application is asking for. The user is given clear feedback as to what is needed next.

3. Read Chapter 7 in the reading assigned. Refer to the list of Schneiderman's Eight Golden Rules for interface design (covered in lecture 3; refer to the lecture slides as well). Choose *four* of them and explain how your website adheres to those guidelines.

1. Strive for Consistency

- Identical terminology is used in menus (navbar buttons)
- Stylistic attributes are consistent across pages (colors, fonts, capitalization)
- Placement of images and forms is consistent

3. Offer Informative Feedback

- Confirmation message when submitting billing information
- Error message when attempting to submit with invalid inputs
- Invalid form fields are highlighted

5. Prevent Errors

- Inapplicable menu items are greyed out
- Form fields accept the appropriate type of input
- User is shown the format for relevant fields (e.g., credit card number)
- Valid form inputs are preserved

8. Reduce Short-Term Memory Load

- Information is preserved between displays:
    - The MetroCard number, current balance, order type, and amount being added that the user entered is displayed up until the final form submission.

- Lengthy form doesn't span multiple displays (billing information)
- All fields of the form can be seen without scrolling (placed side-by-side)

4. Section 7.1 in the reading refers to principles of interface design. There are three main categories: learnability, flexibility, robustness. Choose *one* principle from each category (e.g. for learnability, you can choose predictability, synthesizability, familiarity, generalizability, or consistency) and explain how your website adheres to that principle. You may have some overlap with your answer to the previous question.

1) Category: Learnability
Principle: Synthesizability
"Support for the user to assess the effect of past operations on the current states"

The information the user entered for the transaction displays until the transaction is complete. The user knows exactly how much they will pay, the payment method, and into which MetroCard before they agree to doing so.

2) Category: Flexibility
Principle: Substitutivity
"Allowing equivalent values of input and output to be arbitrarily substituted for each other"

The user can select from a preset list of dollar amounts or fare counts to be added to their card. The same effect can be done with a box that lets users enter in a custom amount. The user can choose which method suits them best.
The user can check their MetroCard by clicking the "My Card" link on the header, clicking the "View My Card" button on the homepage, or by clicking "Check New Card" after already checking one. This allows for different workflows.

3) Category: Robustness
Principle: Recoverability
"Ability of the user to take corrective action once an error has been recognized"

When the user submits the billing information form, they will be notified about any errors. Valid fields will remain and only those which need to be corrected will be highlighted.