**CS 242 Final Project Proposal**

**CUMTD Bus App**

**Michael Whitman (mwhitma2), Peiyuan Zhao**

1. **Abstract**
   1. **Project Purpose**  
      I want to give my own take on how bus routes can be seen. Particularly, I would like to see if I can implement some minor features in addition to the core bus time lookup functionality that I believe would greatly improve the experience.
   2. **Background/Motivation**  
      I would like to expand my knowledge of API usage and web technologies, and this project is a good way to do this.
2. **Technical Specifications**
   1. **Platform:** Mobile App
   2. **Programming Languages:** Typescript
   3. **Stylistic Conventions:** camelCase (the way to go)
   4. **SDK:** Angular 2.0, Ionic 2
   5. **IDE:** Webstorm
   6. **Tools/Interfaces:** Google Chrome, Android phone
   7. **Target Audience:** UIUC Android users, me
3. **Functional Specifications** 
   1. **Features**
   * View bus lines (And the stops along them)
   * See nearby stops (And the lines they are on, probably)
   * Mark common stops for that user
   * See time until a bus arrives at a stop
   * Set an alarm that will trigger when you need to leave to catch the bus
   1. **Scope of project**Anything with a browser
4. **Timeline:**
   1. **Week 1**
      * Setup Development Environment
      * Create/Design the basic flow of views for the app
      * Create access methods for API information
      * Place to view nearby stops
        + Use phone's location, compare to given API data
        + Show associated lines next to them
   2. **Week 2**

* Improve app appearance and data appearance
* Tidy up stop view
* Show available routes next to stops
  + Save in local storage to avoid excessive api calls
* Favorite stops? (Time permitting)
  1. **Week 3**
  + Search for stops
  + Google maps integration
  1. **Week 4**
  + Create alarm functionality
    - Set alarm
    - Notifications
    - Re-evaluate the timings every minute or so, to make sure that the person doesn't miss the bus

1. **Future Enhancements**  
   I think that the alarm functionality could work well as a chrome extension, if for no other reason than to practice making chrome extensions. Other features that could be cool are being able to visualize a line on a Google Map, and seeing what stop a particular bus was last at, if possible. A route planner would also be cool. I am not sure if I will work on this in the future.