Project: Alternative Vote

APCS Final Project Week 2 Status Report .

Date: May 5, 2017

To: Mr. Fulk

From: Andrew Lin, Vinay Senthil, Jeffrey Tao

**Subject:** Status Report Week 2

**Accomplishments:** After much debate, we managed to figure out the class structure and implementation of an alternative voting system, and this allowed us to put together our preliminary specification. Additionally, Andrew built a section of the GUI, notably VisualBallot, Jeffrey coded a working text-based alternative voting algorithm (in other words, the non-GUI and non-networking part is basically complete, save a few flaws), and Vinay figured out a working database and has managed to get cloud sync to work. Vinay setup a cloud SQL database that runs on a server on Microsoft’s Azure. The SQL table has a table called votes that has 4 columns: Name, Vote1, Vote2, and Vote3. The values are stored as a key-value pair with the name of the voter as the key. Vote1 represents the first preference and Vote3 is the least preferable.

**Problems/Risks**: Communication might be the hardest part over the next week; we need to combine what we have accomplished and there may be

inconsistencies. Also, algorithm runtime, though practically not a large issue, bugs us, so we may be spending a significant amount of time finding a more optimal algorithm.

In order to run the application across many devices we would need to implement a database. The typical database for Java is mySQL. After setting this up, we realized that mySQL only worked locally or with certain IP addresses. In order to allow access to any user and consolidate all votes we would need a cloud

database. Attempting to move the entire database to the cloud was a massive undertaking because there are a lot of libraries and SQL code I have never used. Initially, I attempted to use a hosting website, Heroku, to create a server. However, after many tries I realized it was too complicated and wouldn’t be suitable to our application. I moved onto Microsoft Azure because of the better documentation and support. Although the service isn’t free, I signed up for a free account which provided me with $200 of credits which is enough for this project.

**Next Steps:** Our goal for next week is to have a working GUI for voters to submit votes, and have votes sync to a database that stores ballots. We would like to also begin querying results from the database to update a real-time graph of the results.