Virtualization of a Turing Machine Weekly Report: 3-7-2021

Outlined in this document details the work and progress toward the making of the Virtualization of a Turing Machine Project for the week of 3-7-2021.

Throughout the week, Brett George worked on state recognition and executing transitions based on input. Great progress was made in accomplishing this task and is almost complete. In addition to this task, Brett is also working on designs for a stack trace system that will keep a list of transition steps. This will be used to move backwards through the Turing machine if the user desires. Steps were also made to allow editing transitions while the machine is running, but more feedback for this feature of the project may be needed to get a better idea of how to implement this.

The report from last week mentioned that Jisue was working on state recognition and would continue to work on said functions. Due to miscommunication on James Merenda's part, Jisue and Brett ended up working on similar tasks. In order to levy this issue, James Merenda asked Jisue to work on generating graphs based on compiled transitions instead of continuing with state recognition functions. Throughout the week, she continued to work on this premise.

James Merenda used this week to overhaul the stylesheets in the website into a more centered theme. James also implemented a few features to the code area to import or export transitions. These features can be found above the coding area in button form. By clicking the *Select Pre-Made Machine* button, a window containing a list of programs will pop up. When the user clicks one of these options, it will retrieve the transitions based on that listing's description. There are also two other buttons that handle uploading transitions from a local machine and downloading transitions to a local machine. By clicking *Save Machine* the website will prompt the user if they want to save their transitions to a file and if they choose to do so - what to name it. By default, the transitions will be saved as *myMachine.txt* or whatever the user decides as long

as the name is not null. Finally there is the *Choose File* button. When clicked, a file prompt will appear and ask the user for a text file. The website will extract the text from this file and put it into the code editor.

Some problems the team faced during the week include the following. James Merenda misspoke to his fellow teammates and assigned the same task to two different people. To compensate for this, James asked Jisue to switch to working on generating graphs based on transitions. Brett George also faced some issues regarding the scope of variables and data when editing the input string. According to him, this can be easily fixed He also expressed some concern regarding requirements for allowing the user to edit machine transitions. As mentioned before, more input from the user-party may be needed to deliver a quality solution.

Plans for next week include the following. Brett George will continue to implement components to state recognition and execution. Jisue Lee will also continue to work on generating graphs based on transitions compiled. James Merenda will continue to optimize the look and feel of the website.