Star Life Emulator Dev Timeline

Reese Danzer and Karthik Boyareddygari

# 4.11.2016

Work on building database information for a 1 solar mass Star and a system for reading database information into the display. Building the database information will be fairly simple, taking a week at most. Devising a method for reading that information will be much more difficult, as the information itself is not complete and the system will have to synthesize and interpret some of the information from the known data points, effectively performing the task of a best fit function as well as transferring that data to the interface. The HR Diagram graphic will likely be a list plot with data from a variety of star types with the star that is being viewed tracking across it. This must be researched as well to find the points for other stars.

# 4.16.2016

By this point our database for a 1 solar mass star will be complete, and we can work on building up a database for another star size. In addition, our database reading system will be at least complete enough to provide data for the exterior and HR Diagram position of a 1 solar mass star, so we can start to run the whole program with actual values. We will continue work on how to make the program interpret the data to create the graphic for the interior.

# 4.21.2016

The database will have been populated with the data for another star type, and the graphic for the interior will be nearly complete for a 1 solar mass star. The interface will likely have added to it the functionality to select the starting solar mass from buttons or possibly a drop-down list. The graphics for different mass stars will likely be different in the interior due to the creation (or destruction) of certain layers due to varying conditions. The interior graphic will likely need to have altered code for each star mass if this is the case.

# 4.27.2016

Data for different star masses will have been added and the database reading system may need to be altered to handle the different data sets due to the different results to be produced from each star type. All the graphics will be working for their individual star types. It is likely that some layers may need specific functions for themselves to calculate bounds, temperatures, etc. The exterior graphic may be changed to alter its appearance as luminosity increases.

# 5.3.2016

This will be our time to look through everything for any major bugs and/or add some complexity to the interface and the project as a whole (granted there is time and everything else is operational). We will have been asking Dr. Carini throughout the process for his opinion, and this will be another time to consult him, this time to determine if there is anything wrong with our logic and what could be added to increase complexity (if necessary).

# 5.8.2016

We will do our final check of all our project materials to make sure they are working, as well as add to the project any last minute things to finalize it. This will likely be the last time we meet with Dr. Carini, to make sure everything is to his liking. It’s notable that in previous meetings he has expressed hope that he may be able to utilize our project in future astronomy classes as a demonstration, so we may try to cater some of the superficial factors to that end. Our final result will have a small selection of star masses to choose from, and will display an exterior graphic, interior graphic, readouts, and an HR diagram with the currently displayed star tracking across as its temperature and luminosity change.