CSCE 452 Project2 Report

Group 8

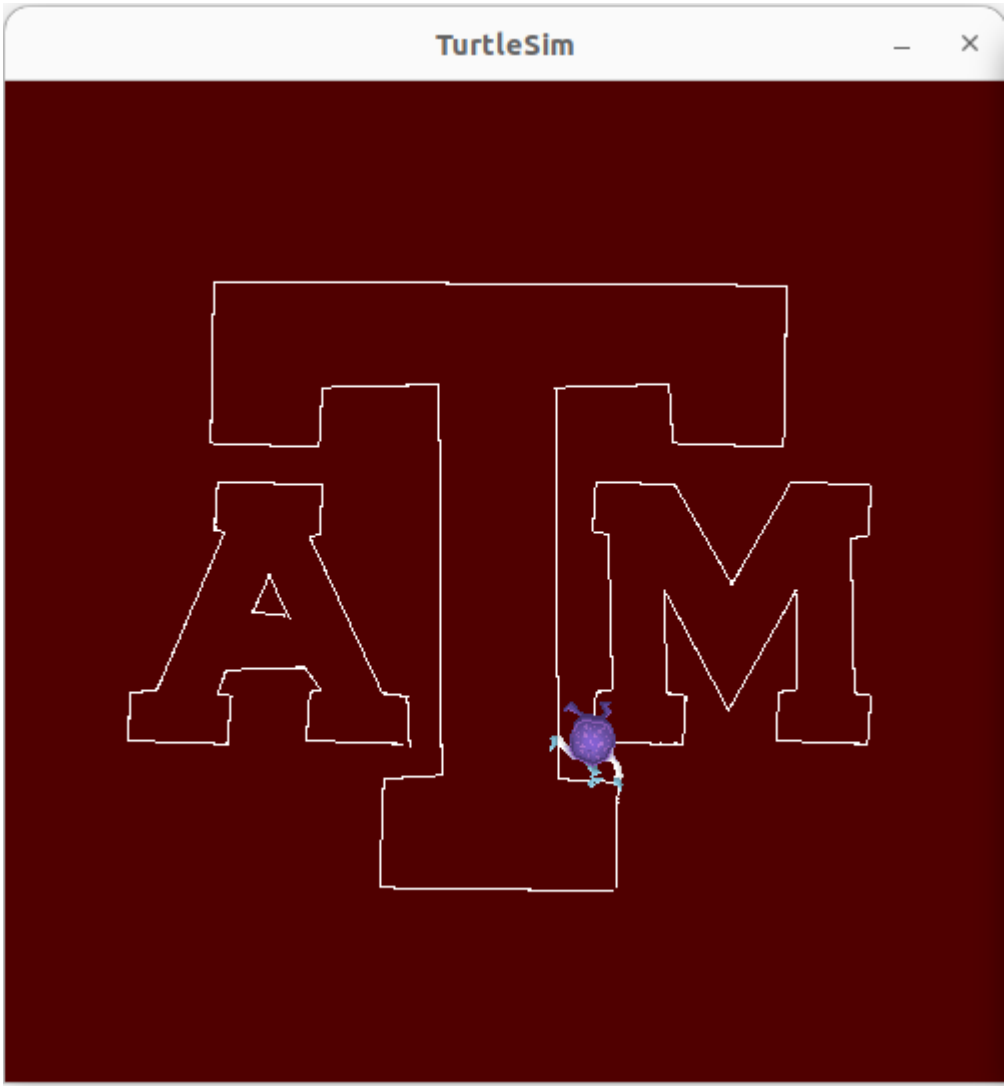
Christian Brown, Ricky Arellano, Rohan Khera

A)

The program is designed to run on a single MoveTurtle node that completes most operations internally. The current status of the turtle is constantly being updated though a subscriber that listens for the turtles parameters and used the values to calculate the direction and angle it needs to travel. We ended up using a timer and timer_callback method to publish our velocities since we were not able to set-up a multi-threaded execution system to constantly get values from our subscriber. For the pathing method we decided to follow a similar logic to the one shown in class where the turtle turns to the intended direction then moves to create the sharp angles needed for the logo.

When we calculated the vertices for the logo, the original logo was a 540*540 image so the coordinates are saved relative to the dimensions of the image. To convert the coordinates from the image to the 11x11 turtle world in the calculate_coordinates() function we had to multiply the each coordinate by 11/540 to convert each value into the correct frame of reference.

B)



C)

The results did not meet our expectations. We found out that it was it was a lot more difficult than expected for the turtle to travel a specific path we wanted based on our algorithm. Although we designed to have our turtle to turtle turn to the precise angle to the goal and adjust itself during traveling, the turtle always under-turned by a couple of degrees.

D)

Christian Brown:

Wrote the functions to change the background color and pen size of the turtle sim node

Ricky Arellano:

Found the coordinates for edges of the A&M logo and wrote the queuing system of the coordinates.

Rohan Khera:

Wrote the navigation algorithm to get from one point to another.