Jessica Quaye and Premila Rowles

6.111 Fall 2018 Final Project Checklist

Jessica Quaye Goals

❖ Baseline

- Implement traffic logic for bi-directional cars including pedestrian push to walk signal.
- Draw visualization of implementation on the screen with signals changing on the screen in accordance with implementation.

❖ Expected

- Model collision of cars in visualization with ambulance arriving when a collision is detected. This collision is simulated by a car that is continually moving on the screen, and a mouse input which controls “another car”.
- Add sound effects for ambulance and police car.

❖ Stretch

- Store the frames in the visualization and make it possible to playback downsampled version.
- Ability to control speed of playback (normal, 25% slow, 50% slow)

Premila Rowles Goals

❖ Baseline

- Given camera input, determine number of cars and positions of cars to extrapolate corresponding direction on a two-way street
- Includes converting NTSC output to YCrCb space to RGB space to HSV space
- Erode and dilate the images
- Use that information to identify cars and respective x, y coordinates

❖ Expected

- Detect collisions on the street and send help signal
- Using positions of cars, determine if gap between cars is less than one pixel; if so, a collision occurred

❖ Stretch

- Detect reckless driving through processing car movement (swerving, overspeeding, etc)

    - Using positions of cars, detect vertical movement in y pixel values of cars
- If a traffic warden is detected in the middle of a street for more than 5 seconds, turn off traffic lights to save energy.