**User Stories:**

**Jessica, transit programmer:**

As a programmer, I want to easily monitor the inputs and outputs. If switches are moving, I should clearly see that.

As a programmer, I want to access the PLC code at any time and edit it as I see fit

As a programmer, I want to move switches manually if necessary

As a programmer, I want to set traffic lights manually if necessary

As a programmer, I want to set commanded speed manually if necessary

As a programmer, I want to control railway crossings (gates and lights) manually if necessary

**Thomas, train driver:**

As the train driver, Thomas wishes the train is easy to control, with train information, such as speed limit, faults, and current speed clearly displayed.

As the train driver, Thomas wishes the train to be safe, with vital controls, such as the service and emergency brakes, clearly labeled.

As the train driver, Thomas wishes the train regulates speed to the speed he commands it.

**James, 27-year-old passenger from Los Angeles, California**

As a passenger, I wish to experience a comfortable ride on the train such that it is a smooth ride across various terrain, the driver does not drive too fast or too slowly and there are no overcrowding issues. If issues do arise on the train, I wish for a clear announcement to sound and to be able to find another train nearby.

**Samantha Track builder**

# As a track builder I would like to see what track blocks have a circuit failure

Circuit failure is one of the failure modes of the system. Should be able to see it on the UI so that the track builder can know where they need to go and fix the track.

Conditions of Satisfaction: If a circuit breaks, should see on the UI which specific track circuit block has the failure.

**Michael, Dispatcher**

As the dispatcher, I want to dispatch a train to a station to arrive at a certain time, so that there will be enough capacity for all riders

As the dispatcher, I want to view the entire system, so that I can make decisions on dispatching trains

As the dispatcher, I want to open and close sections of the track for maintenance, so that no collisions occur

**Murphy, the destroyer**

As Murphy, I want to be able to destroy the brakes of the train so that the train can no longer stop.

As Murphy, I want to be able to break the engine of the train so the train can no longer run.

As Murphy, I want to be able to disrupt the signal of the train so there can be no communication.