```
March 21, 2019:
    - Finished drawing out the layout of the pannel on paper
    (1.5 Hours)
    - Worked on creating the pannel in HTML & CSS
    (2 Hours)
August 20, 2019:

    Started work to convert to a ReactJS app, started with tutorials

and research.
    (2 Hours)
    - Tried to create first component, which would be a crossover
button, which took
    4 hours to get an image in appear in ReactJS
    (4.5 Hours)
August 21, 2019:

    Changed the componet which was going to be just a crossover

button to the entire
    Suscon interlocking. Deciding that each interlocking will be it's
own component.
    (3 Hours)
August 23, 2019:

    Tried to figure out how to change an image in ReactJS, which

ended up being a
    real big pain, having to import each image file similar to
importing a scrip file.
    This solution seems weird but it's the only way I've been getting
this to work so far.
    (4 Hours)
August 24, 2019:
    - Started to get all the crossover buttons working, and changing
the image based on clicks,
    did this for both Suscon and Mill
    (1 Hour)
    - Converted what I did for the crossover buttons to use the
'state' object which is part of
    a ReactJS Component to more closely follow the conventions of
ReactJS
    (2 Hours)
August 25, 2019:
    - Set up the click function for the signals in Suscon
    (0.5 Hours)
```

 Changed the setup so all the components that make up the Main Line section are wrapped in one

component, this will make it eaiser for passing information from the components to the CTC controller

both ways.

(0.5 Hours)

 $\,$  – Changed all the track block colors to be based off the state in their component class.

(0.25 Hours)

 Setup the beginnings of the CTC Controller class which will act as the backend to controll all the

train movements, also created a ctc\_block class which is be a instance for each track block on the railroad

(0.75 Hours)

 Tested out have the informmation in the CTC Controller class change the state of the MainLine component

by using the props property that is built into react to pass the status of 2 blocks into the component itself.

Luckily it works, and I now have the ability CTC Controller change the pannel.

(0.5 Hours)

### August 26, 2019:

 Changed how to pass an object as props in the ReactJS component, instead of a variable for each piece of

information that needs to be passed

(0.5 Hours)

 Created a script for the Suscon interlocking to controll the train movements, and started to make this class

change the state of the UI and have the changes reflected in either the ReactJS component or the JS script

(1.5 Hours)

 Got the ReactJS component to send it's changes up to the script class for the interlocking, and having the

changes in the the script be reflecting in the Component, at this point the data is being sent both ways for

the curent status of the crossovers in the interlocking (1 Hour)

#### August 27, 2019:

 Started converting Ridgewood Junction from HTML and CSS to a new ReactJS component, also made some changes from

my original design, and learned you do draw a diagonal line in CSS (0.75 Hours)

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- Converted Laurel to a new ReactJS component and cleaned up some
of my previous designs
    (0.5 Hours)
    - Did some work on my drawing for the switch buttons on the pannel
    (0.25 Hours)

    Converted the West Secaucus from into a ReactJS component

    (0.5 Hours)
August 28, 2019:
    - Drawing the Bergen County Line, finished about 95% of the line,
creating all the components.
    (5 Hours)
August 29, 2019:
    - Finished Drawing all the tracks on the Bergen County side of the
pannel
    (1 Hours)

    Finished drawing of Laurel

    (0.25 Hours)

    Finished drawing of ridgewood Junction

    (0.25 Hours)
August 30, 2019:
    - Reconfigured pascack Junction
    (0.25 Hours)
    - Finished the drawing in HX
    (0.5 Hours)
    - Finished drawings in Pascack Junction
    (0.25 Hours)
    - Finished drawings in BT and add tags for tracks that lead to
other lines
    (0.25 Hours)
    - Orgainized the files structure a bit, and dealt with all the
changing of
    import statments
    (0.25 Hours)
    - Created a component for Harriman, starting the next line of
tracks for the pannel
    (0.5 Hours)
```

 Created a comonent for Sterling, and the tracks between the interlockings, also works on

parts of hilburn, and sf for the leads to the yard between the hilburn and sf

(1 Hour)

# August 31, 2019:

- Finished drawing the the Main Line
(2 Hours)

Continuted work on the Southern Tier line, finished about 85%(4.5 Hours)

### September 1, 2019:

Finished All drawings on the pannel(2 Hours)

### September 2, 2019:

 Started connecting all the track blocks on the Main Line to the ctc scripts, now having

the ctc class controlling the front end of the pannel. (2.5 Hours)

### September 3, 2019:

 Fixed the bugs I was having trying to connect the ctc class to show the correct informating

when the frontend refreshes the screen.

(0.75 Hours)

 Created a new class for a game clock, so start trying to get the trains to move accross the

screen to (0.5 Hours)

 $\,$  – Debugged a problem in the clock class, and now I have a hardcoded train moving accross some of

the blocks (0.25 Hours)

Configured the ctc\_suscon class to create a route through the interlocking based on the status

of the switches and what signal you click (0.5 Hours)

- Got the Suscon component to draw the routing in the UI givien the route status of the  ${\tt ctc\_suscon}$ 

class
(4 Hours)

- Now the route draw turns to occupied if you set the interlocking

to that state and created a

function to deal with that and will also clear the drawing when the hard coded train passes the

location (2 Hours)

# September 4, 2019:

 $\,$  – Finally found a good way to store and display routes, using something that I

already had in place.

(1 Hour)

 $\,$  – Created a class for the the trains, and now have a actual train moving around the pannel

(2.5 Hours)

 Figures out how to have the routes passes to the train, and now the train can move based off of

how the player has created routes on the pannel (3 Hours)

 Spent a while trying to get the interlocking to become occupied when a train is present, have yet

to find a good way to do this and will have to revist it.

(1.5 Hours)

### September 5, 2019:

 Again tried to figure out how to occupie the interlocking in a good way, and still have yet to

come up with a ellagent solution

(2 Hours)

West Secaucus is now fully operational(3 Hours)

 Routing for Ridgewood Junction is now complete, all thats left is getting the drawings up and

running, which might by interesting

(2 Hours)

Testing 2 trains at once, and it seems to be working finished
 (0.5 Hours)

#### September 6, 2019:

 Reworked how routes are given to trains to make it much easier to have trains to be going in both

directions

(1.5 Hours)

- Fixed issue with the routings for all the current interlockings

# (2 Hours)

### September 7, 2019:

 Finished all the drawing for routes in Ridgewood, and have decided to finish the routing first, and

then go back to the drawings, because the take the most time (6 Hours)

# September 9, 2019:

- Finsihed the routings for Laurel
(2.5 Hours)

- Finished the routings at the WC interlocking, will still have to go back and add the drawins when

a route is lined

(1.5 Hours)

- Finished the routings in the SF interlocking (1 Hours)
- Finished the routings in the Hilburn interlocking(0.5 Hours)
- Did some debugging to fix an minor issue with train movements through hilburn interlocking, at this

point now a train can run from Laurel to Sterling (0.25 Hours)

# September 10, 2019:

Got the switch in sterling to throw (0.25 Hours)

 $\boldsymbol{-}$  Connected all the blocks on the pannel to actual block classes in the ctc class

(1 Hour)

Fixed a bug in the suscon interlocking routing (0.25 Hours)

# September 11, 2019:

 $\,$  – Hooked up the blocks on the southern tier section to the ctc mainline class

(0.5 Hours)

 Finished the switches and routing for Sterling, Harriman, and Central Valley interlockings (2 Hours)

### September 12, 2019:

Finished Switches and routing for Hudson Junction

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(0.5 Hours)
    - Finished switches and routing for Howells
    (0.5 Hours)
    - Finished switches and routing for CP OV and for CP BC
    (1 Hours)
September 15, 2019:
    - Finished Switches and routins for CP Port, CP PA and CP Sparrow.
Trains can now run the entire
    length of the pannel
    (2 Hours)
    - Finished route drawings for CP BC
    (0.5 Hours)
    - Finished route drawings for CP OV
    (0.25 Hours)
    - Finished route drawings for CP Howells
    (0.25 Hours)
September 16, 2019:

    Finished route drawings for CP Port

    (0.25 Hours)
    - Finished route drawigns fro CP Hall
    (0.5 Hours)
    - Finished route drawings for CP Sparrow
    (0.25 Hours)
    - Finished route drawings for CP Hudson Junction
    (0.25 Hours)
    - Finished route drawings for CP Central Valley
    (0.25 Hours)
    - Finally figured out how to occupy and interlocking, right now it
just working for interlocking that have only one route,
    but this is the majority of the interlockings, so I'll be able to
get most of the interlockings working 100% in short order.
    (0.5 Hours)
    - Added occuping interlocking for CP Hudson Junction
    (0.5 Hours)
    Commenting
    (0.5 Hours)
```

- Can now occupy CP Hall, this is an interlocking that can have multiple routes, which was gonna be more difficult than one route interlockings to get it to work. (0.5 Hours) - Can now occupied CP Howells (0.25 Hours) - Can now occupy CP BC and CP OV and CP Port (0.5 Hours) September 17, 2019: - Drawings and occuping for CP PA (1.5 Hours) - Can now occupy CP Sparrow (0.25 Hours) - Drawing and occupy at Hilburn (0.5 Hours) - Drawings and Occupy at CP Sterling (0.5 Hours) - Drawing and Occupy finsihed at CP Harriman (0.5 Hours) - General Bug Fixes (0.5 Hours) - Drawigns and Occupy finished at SF (0.75 Hours) - Occupy finished at West Secaucus (0.25 Hours) Route drawings and Occupy finished at Suscon (0.75 Hours) September 18, 2019: Route drawings and Occupy finished at Mill (0.25 Hours) - Bug Fixes at CP Port (0.25 Hours)

- Trains now delete if they reach the ends of the railraod, either

yard, or the end of pannels west of CP Sparrow or east of Laurel

when they reach a

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(0.5 Hours)
```

Fixed all east facing yard leads so trains to leave from them,
 had to change the way
 those blocks were named

those blocks were name

(0.25 Hours)

- Route drawings and Occupy finished at Ridgewood Junction
   (3 Hours)
- Route drawings and Occupy finished at WC (1.5 Hours)
- Fixing the Blocks on the Bergen County Line (0.75 Hours)
- Setting up the switches to working at BT (0.5 Hours)
- $\,$  Setting up the switches at both Pascack and HX, now all the interlockings have working

switches

(0.75 Hours)

Routing working for the BT interlocking(0.5 Hours)

# September 19, 2019:

- Routing working at Pascack interlocking(0.5 Hours)
- Routing working at HX interlocking(0.5 Hours)
- Bug fixes with routing around the laurel area (0.75 Hours)
- Route drawings and occupy working at BT interlocking
   Hour)
- Route drawings and occupy working at Pascack interlocking
   (0.75 Hours)
- Route drawings and occupy working at HX interlocking
   Hours

### September 20, 2019:

 Working on Drawings for Laurel Interlocking, finished about a third of them (2 Hours)

- Debugging for the Laurel Interlocking(0.75 Hours)
- Continued Drawings for Laurel Interlocking, finsihed about 2/3 of the them at this point
   (2 Hours)

September 21, 2019:

 Finished drawings for the laurel interlocking and debugging some of the drawings that change

when another track has a different status.

- (2 Hours)
- Finished the routing and occupy for Laurel Interlocking(0.5 Hours)
- Rewrote the drawings for the WC interlocking using the new system I created and used at Laurel,

this fixed the bugs that had arrised in that interlocking (3 Hours)

 Started adding symbol tags to the pannel for the blocks, finished all the symbols on the

southern tier section of the pannel

(1.5 Hours)

- Documenting Laurel.jsx
  (0.75 Hours)
- Bug fixes at West Secaucus
  (0.25 Hours)

September 22, 2019:

- Finished locations on all the symbols for the main line, still have to get the workings.
  - (0.75 Hours)
- $-\mbox{ CSS fixes for the text symbos on the pannel to keep it from moving around if the windo is resized$ 
  - (0.25 Hours)
  - Got the symbols of the Main Line working correctly (1 Hour)
- Got the trains to get the size of the current block so it's more realistically timed as a train

moves accross the railroad.

(1 Hour)

- Finished the symbols on the bergen line (0.75 Hours)
- Finished commenting for all of Laurel Interlocking(0.5 Hours)
- Finished commenting for all of Mill Interlocking(0.5 Hours)
- Finsihed commenting on all of the JSX components for the Main Line section (2.5 Hours)
- Finsihed commenting on all of the JSX components for the Bergen County Line section (1 Hour)

# September 23, 2019:

- Commenting on JSX components
  (3 Hours)
- Commenting finished on all CSS Files(1 Hour)
- Commenting on all controller JS classes for the Bergen Line &
   Southern Tier Line (4 Hours)
- Finish commenting on all the controller JS classes which was for the Main Line and others (3 Hours)

# September 24, 2019:

 Finished the manual and what ever was left of the documentation (6 Hours)

TOTAL: 156.25 Hours