***Doctor Who Ticket to Ride – Week 9/10 Revision***

**Problem Statement:**

The purpose of this project is to create a computer board game based on the Days of Wonder game, Ticket-to-Ride. This game is a route building game, with the goal of connecting specific locations on a map with owned routes. The game shall follow all the rules indicated in the Ticket-to-Ride USA version, but will have a Doctor Who theme. The game will no longer feature the additional Action Card type.

**Feature List:**

Start Game Feature: The goals of this feature were to have a method of selecting the number of human players, whether users wanted to play with Action Cards, and entering player names. The selection of human players and entering names have been implemented. The selection of whether to play with action cards will not be implemented as action cards have been removed from the planned features.

Drawn game board: The initial goals of this feature were to have rendered game board of planets and paths using coordinates from a file. This map was to be made scrollable and zoom-able with possible random generation of planet locations and connections. Additionally, routes were going to begin as straight, and possibly later be curved. A drawn map with information read from a JSON file has been achieved. The map features straight paths. There is no plan to implement scrolling, zooming, random generation, or curved paths.

Choosing Train Cards: The selection of train cards was planned in accordance with the rules of the original game. A player may draw up to two train cards per turn, in a combination from the face up cards and the deck. A player may only draw one face up if a rainbow card is taken, additionally, their second face up cannot be rainbow and they cannot draw from the deck after taking a rainbow card. The colors for train cards are Blue, White, Black, Green, Red, Orange, Yellow, Purple, and Rainbow. There are 110 cards in the deck and 5 face up at any given time. If a face up card is picked, the space will be refilled so 5 are always present. If 3 of 5 face up cards are simultaneously rainbow, all 5 are discarded and new set is laid out. All of the train card features were implemented successfully.

Using train cards to buy a route: The plan for this feature was to have clickable, highlighted routes that a player can then buy with the appropriate train cards. They must use enough train cards equal to the length of the path. Additionally, they must use cards of the path’s color or rainbow, or any single color plus rainbow for a gray path. On a double route, a player may only buy one of two paths. It was originally intended for a message to pop up if a route cannot be purchased. Most of these features were implemented successfully. No message will pop up if a route cannot be purchased, the purchase button simply will not activate. Additionally, double paths have not yet been implemented but are planned for week 10.

Further plans regarding this feature were to start with a deal of four cards per player, not yet implemented but planned for week 10. Furthermore, a cancel button is present to allow players to opt out of purchasing the selected route.

Once a path is purchased, the number of trains used to purchase the path is successfully removed from the player’s stock (initially at 45), and the points for the path are successfully added to the players score. This score is also visually represented in a score ring around the edge of the board.

Viewable player statistics: This feature involves the ability to display the current player’s route cards and hand cards as desired, as well as always showing the train stock of all players. The hand cards are currently visible, as well as the stock and score of all players. Route cards are not yet visible but will be made so as a part of route card handling in week 10.

Switching player with end turn button: This feature involves a player ending their turn with a button and has been implemented successfully. Additionally, a security screen has been added between player turns so that one player does not see the hand of the previous or next player.

Drawing of route goal cards from deck: At the outset of the game a player must draw at least two from three given route cards. On any later turn they may choose to draw at least one from three given route cards. These route cards offer points at the end of the game for completion, and remove points if they are uncompleted. Currently route cards exist, can be shown, are tracked for completion, and have their score added, but are not yet available to add to a player’s hand.

Monitoring to see if route goals have been met using HashMap to track cities connected to each: Similar to the previous goal, this is a the more specific plan for tracking route card completion. Route card completion is done with a node matrix rather than a HashMap, but functions successfully. The point managing is also implemented.

Text pop ups with Doctor’s dialogue? (Serving as instructions and fun quips): This was a possible fun feature to add flavor text to the game based on popular doctor who quotes. It has not been added in bulk but a few small nods to the series are present.

View rules from main menu, or in game: This feature is not yet implemented, but will be in week 10. It involves the ability to view the rules both before beginning the game and at any point during.

Action cards: This feature has been removed entirely. It was going to involve a special card type that caused unique events to occur in gameplay.

Ending game: The end of the game occurs when any single player has 2 or less trains remaining. Once this occurs all players including the player who went below the limit gets one final turn. After this set of turns, the longest path of any player is computed and that player is awarded 10 bonus points. This feature is entirely implemented.

Features for Week 10:

Double routes

Route card handling

Initial card deal

End game screen

Instructions access

Final logic tests (cannot purchase path longer than trains remaining, visual negative score at game end)