



# Beta Presentation

## Mobile Train Handling Simulator

The Capstone Experience

Team Union Pacific

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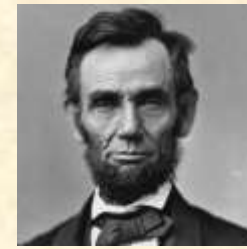
Michigan State University



*From Students...  
...to Professionals*

Fall 2022

# Project Sponsor Overview



- Union Pacific Railroad company first founded in 1862 under direct approval of Abraham Lincoln.
- Oversees 8,300 locomotives over 32,200 miles.
- Union Pacific employs subsidiary called PS Technology for software-based solutions which are mainly sold to other large railroad companies.
- PS Technology created the physics API for the train simulator we are using.
- Contact, named Jeff Girbach, is an MSU and Capstone alum from 2013. Specializes in simulation software at PS Technology.



# Project Overview

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- Distributed power handling simulator.
- Built in Unity with PS Technology's Physics API.
- Control throttle and braking of train.
- Keep buff and draft forces in check.
- Complete level to unlock next level.
- On-the-go training for locomotive engineers.
- Cost-effective.



# System Architecture





# Main Menu

A screenshot of the main menu for the game 'Mobile Train Handling Simulator'. The background is a repeating pattern of steam locomotives. A large, semi-transparent grey cloud shape contains the title 'Mobile Train Handling Simulator' in white text. Below the cloud, a dark grey vertical rectangle contains three white buttons labeled 'Start Game', 'Options', and 'Quit' from top to bottom.

## Mobile Train Handling Simulator

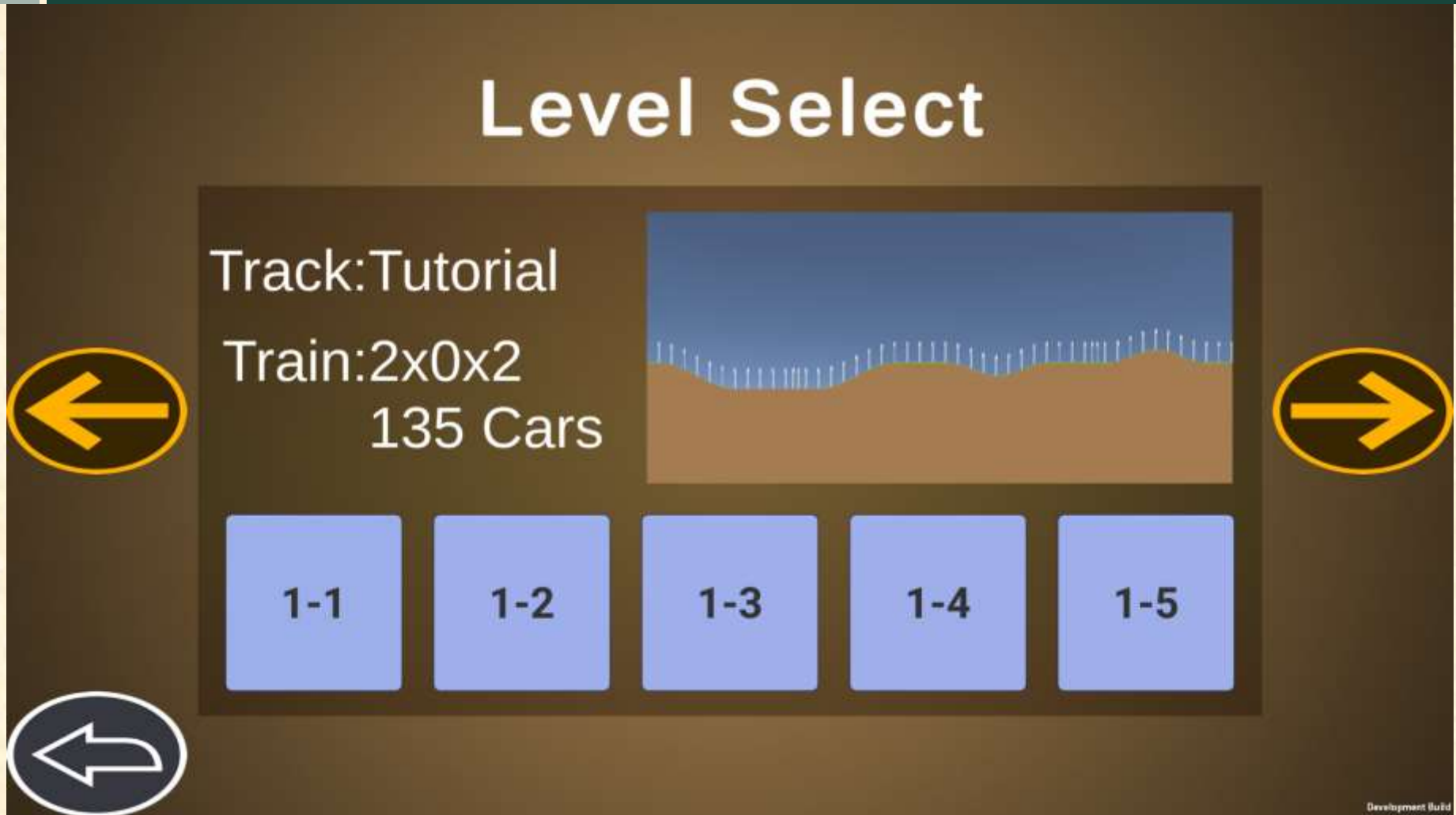
Start Game

Options

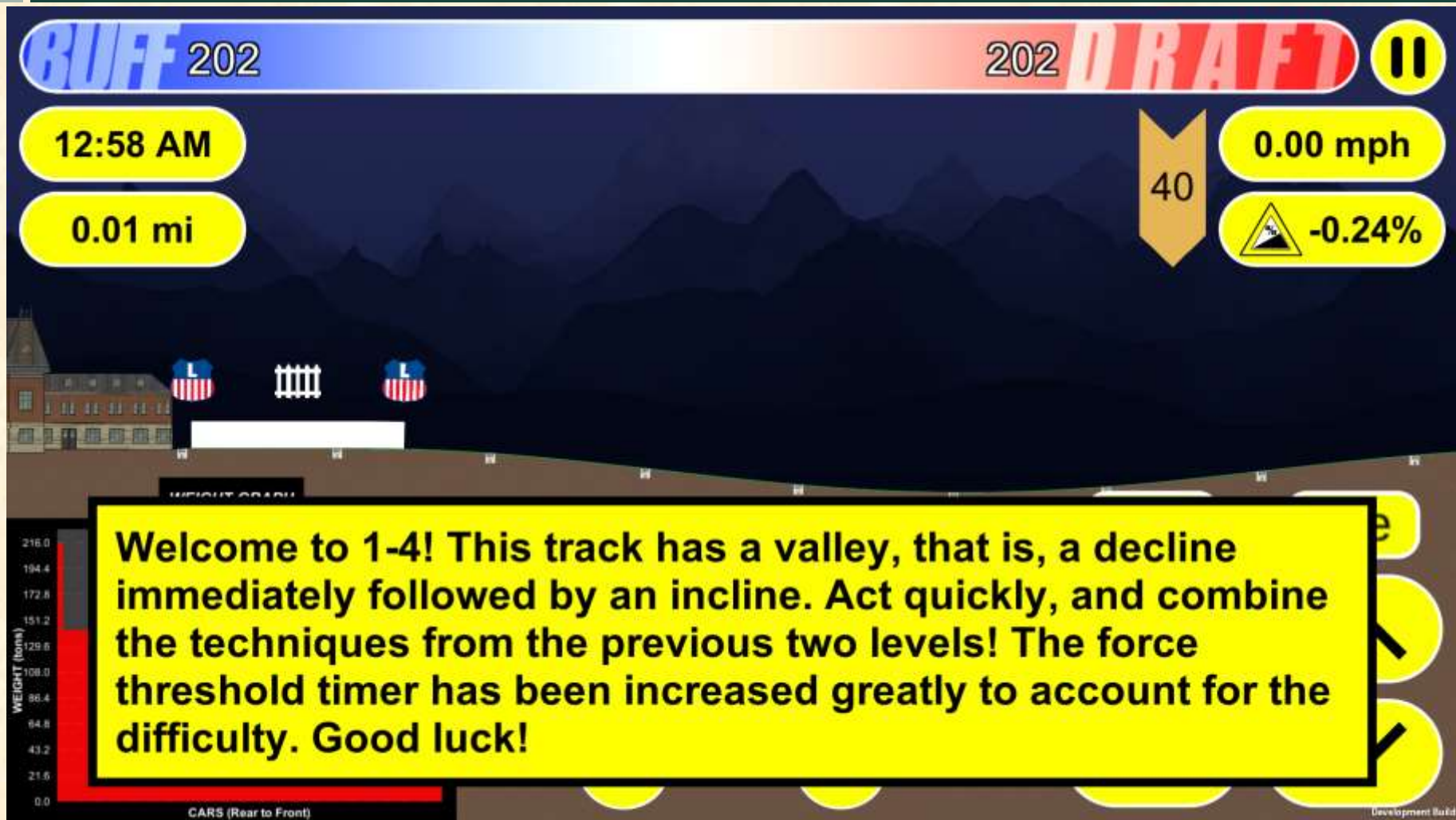
Quit

Development Build

# Level Select

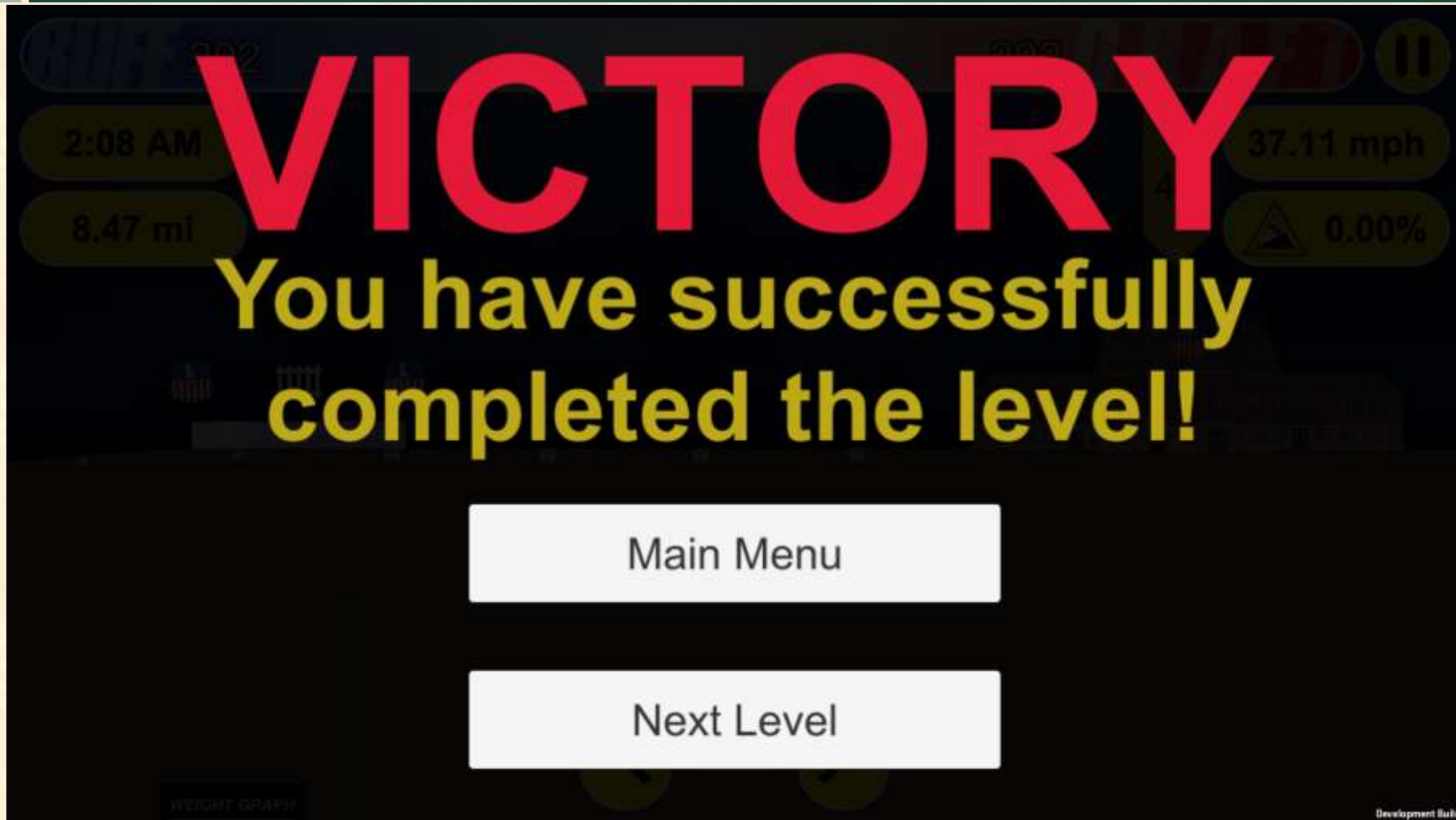


# Gameplay





# Victory Screen





# What's left to do?

- Stretch Goals
  - Custom Level and Train combinations
  - Custom Sound Input
- Other Tasks
  - Fix weight graph display
  - Update milepost markers
  - Fix terrain interaction bugs
  - Finalize main menu UI

# Questions?

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