Union Pacific
Mobile Train Handling Simulator

Union Pacific, founded in 1862, is the leading railroad transportation company in North America. With over 32,000 miles of track, 8,000 trains and 30,000 employees, Union Pacific plays a major role in the transit of goods throughout the nation.

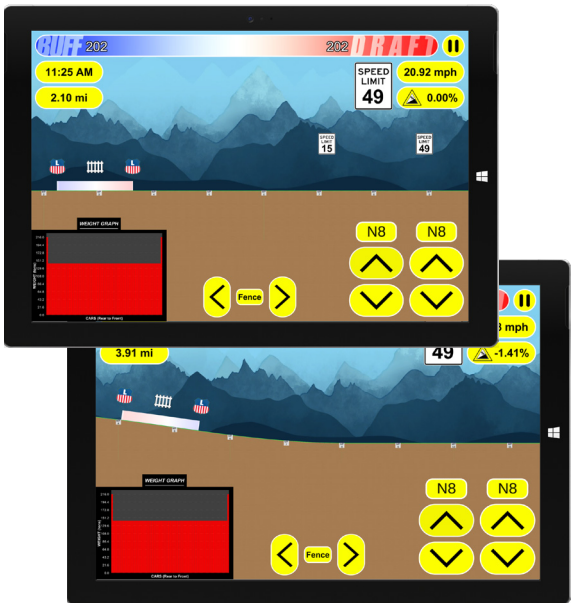
Traditionally, trains were powered by one locomotive group at the front, whereas contemporary trains can have up to three locomotive groups throughout. This is known as distributed power. Distributed power requires the engineer to manage the throttles of each locomotive group in order to maintain a delicate balance between the train cars, a task that becomes more difficult as terrain changes over the train's route.

Locomotive engineers today have a heavy responsibility, overseeing many tons of cargo and many passengers. To make sure engineers are trained properly, there is a pressing need for accurate and accessible distributed power training simulators.

Our Mobile Train Handling Simulator lets users control an expansive collection of real-world trains over realistic terrains. Users interact with throttle and brake controls for up to three locomotive groups and try to minimize the push (buff) and pull (draft) forces between cars of the train. Our system uses cutting-edge physics simulation and comprehensive train conditions to ensure the simulations are realistic and informative.

With intuitive controls and simple two-dimensional visuals, our simulator is realistic and easy to use. This makes it an accessible solution for locomotive engineers while avoiding costly resources such as proprietary and stationary train hardware.

The simulator is developed with Unity, a software development environment and game engine. Additionally, our system incorporates a proprietary train physics API from PS Technology, a Union Pacific subsidiary. This makes our simulator highly accurate, warranting its use in training locomotive engineers.



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Michigan State University
Team Members (left to right)

Kevin Shin
Rochester Hills, Michigan

Reid Harry
Kingsford, Michigan

Adam Kasumovic
Chesterfield, Michigan

Darien Ford
Royal Oak, Michigan

Nhat Vong
Muskegon, Michigan

Nicholas Shari
Roseville, Michigan

Union Pacific
Project Sponsors

Seenu Chundru
Louisville, Colorado

Jeff Girbach
Milford, Michigan

Adam Halley
Omaha, Nebraska