Project Plan Presentation
Mobile App Extension and Enhancements

The Capstone Experience

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Project Sponsor Overview

- RPM is an end-to-end transportation service provider
- They support all modes of transportation across all industries, like freight and vehicles
- They connect carriers to shippers
- On time delivery 98% of the time and 100% shipment acceptance
- Growing 40%+ yearly
- Focus on carrier relations
- Based out of Royal Oak, MI
Project Functional Specifications

• Enhance mobile app to provide a one-stop solution to carriers for all their shipping needs like searching, bidding, tracking, and more

• Increase user retention and application use with a rewards program for carriers

• Improve user experience by personalizing shipment recommendations

• Reduce costs by creating our own bid system instead of using TNX.
Project Design Specifications

- Bidding system – A system for carriers to make bids on available shipments from RPM
- Rewards program – A system that awards points to carriers for perfect deliveries, redeemable for gift cards
- Search system – A search system where carriers can apply filters to find new shipments
- Shipment suggestion - A smart shipment suggestion system that suggests carriers new shipments based on their preferences and history
Screen Mockup: Shipment Search
Screen Mockup: Suggestions
Screen Mockup: Bid Detail

- Time Left: 00:08:25
- Vehicles: 1
- Weight: 4100 Lbs
- ~825 miles
- Pick up: Detroit, MI (09/26/22)
- Drop off: Boston, MA (09/28/22)
- Contact Number: 517-623-9745
- #458253
- $70.00
- $80.00
- $90.00

Place Bid

or

Get now for $70.00
Screen Mockup: Rewards
Project Technical Specifications

• The application uses C# and the .NET framework.
• The application is developed using the Xamarin C# Library in Visual Studio.
• TNX logistics will provide RPM with cargo information and accurately push the cargo to truck drivers through machine learning using Scikit-learn library.
• Azure SQL stores cargo history for RPM as well as truck driver's shipment history.
Project System Architecture
System Components

• Hardware Platforms
  ▪ iOS
  ▪ Android

• Software Platforms / Technologies
  ▪ Visual Studio 2019
  ▪ Xamarin
  ▪ XCode
  ▪ TNX logistics
  ▪ Azure SQL
  ▪ Scikit-learn
Project Risks

• Selecting and/or implementing AI load suggestions
  ▪ An in-house AI suggestion system
  ▪ Research existing suggestion systems and adopt an appropriate one

• Implementing a functional bidding system
  ▪ An in-house bidding system for shipments
  ▪ Look into how bidding systems work, begin to prototype

• Finding and using APIs to import results from Python into app
  ▪ Our AI algorithm will be in Python, but results need to get into app
  ▪ Find APIs that can port the results from Python to Xamarin

• Designing and verifying driver rewards system
  ▪ RPM needs a reward system that deposits money into a user's accounts
  ▪ Look into similar rewards programs and their design; work with RPM to find a solution that fits their system
Questions?