CSEE480 Assignment 1:

Problem Statement, Vision, Background Research, Feasibility and Requirements Specification

January 2024

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Contents

1 VISION

The Personal Rapid Transit system - better known as the PRT - is a staple of West Virginia University's Morgantown campus. The PRT is a relatively efficient system, moving thousands of students [prt source!!!!!!!!!!] directly from their start position to their end destination across campus daily. While the PRT in its current state serves WVU's students appropriately, the system is not without its downfalls.

1.1 Problem Statement

Despite a movement rate of 15,000 students per day [same prt source!!!!!!!!], there are times when commuters are left waiting at a platform as empty cars leave or certain stations are left without vehicles for people to board. The PRT can be improved to avoid some of these scenarios. If cars were equipped with the ability to track data such as power consumption, GPS location, and passenger capacity, analyzing that data could provide insights into how the PRT can be more efficient in terms of transportation and energy expenditure.

1.2 Functional Specifications

1.3 Constraints

2 BACKGROUND RESEARCH

2.1 PRT Background and History

2.2 Prior Works

2.3 Justification

3 REQUIREMENTS SPECIFICATION

3.1 Functional Requirements

3.2 Engineering Requirements

3.3 Marketing Requirements

3.4 Mapping of Marketing Requirements to Engineering Requirements

3.5 Engineering and Marketing Requirements trade-off chart

	Must Meet	Adjust	Accept
Data Transport	✓		
GPS Tracking	✓		
Real-time tracking			✓
AC Power Sensing	✓		
Passenger Counter		✓	
Passenger Volume		✓	

3.6 Competitive Benchmarks

3.7 Various applicable constraints and standards

3.8 Broader Requirements and Constraints

4 REFERENCES

4.1 Sources

4.2 Contribution Table

Andrew DeGarmo				
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