* 1. **Project Summary**

**1.1.1 Purpose, Scope, and Objectives**

This document describes the software requirements for a Vehicle Training Simulator to be used for the training of ambulance and emergency rescue vehicle operators. This requirement specification outlines the initial release of this project and aims to encompass the entire system, including both its software and hardware components.

The system will consist of the software and a mechanical device that the driver will sit in. The mechanical device will contain the interface that the driver will use to control the ambulance and a viewing screen. The device will need to be able to realistically mimic the movements of an ambulance under various road conditions and in different situations. In order to do this the software will need to be able to perform large amounts of physics calculations. The system would sync up with a database that would keep track of the statistics of the driver and his performance that could be analyzed later and could show improvements over a period of time. The user interface of the machine could be basically a stripped down ambulance. Parts of the ambulance that need to be manipulated (such as the wheel, gas, brake and clutch pedals, shifter, wipers/lights etc) would now be set up as input devices ready to read the users actions and send the information to be handled by a main physics engine. These same input devices would also need to be output devices to a degree, where pedals would need to lock up and resist in certain conditions, and the wheel would pull toward centering the tires when the ambulance was accelerating. A visual display replacing the mirrors and windows in the car would be output only devices, and the same signal sent to them could also be sent to a monitor outside the simulator so a third party, such as the instructor, could monitor the simulation.

**1.1.2 Assumptions and Constraints**

The authors of this document are expected to complete the project within the Fall 2008 semester. This project will use resources in the form of time and effort that will be spent developing the project deliverables. We will be relying on 3rd party companies to design the physics calculator and all hardware components of the SRS.

**1.1.3 Project Deliverables**

The list of project deliverables is:

* The Project Summary
* References
* Definitions
* Project Organization
* Managerial Process Plans
* Technical Process Plans
* Supporting Process Plans
* Additional Plans

Refer to section 1.1.4 for the expected delivery dates of the project deliverables.

**1.1.4 Schedule and Budget Summary**

**Budget Summary:** “No budget required”.

A tentative schedule is as shown below in table 1.

Figure : Schedule

|  |  |
| --- | --- |
| Item | Due date |
| Project Summary | October 8, 2008 |
| References | TBA |
| Definitions | TBA |
| Project Organization | TBA |
| Managerial Process Plan | TBA |
| Technical Process Plan | TBA |
| Supporting Process Plan | TBA |
| Additional Plans | TBA |
| Project Management Plan | December 8, 2008 |