Software Requirements Document

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1. **Introduction**
   1. **Purpose**

The purpose of the project is to develop a space mapping tool to learn autonomous robots (in our case an autonomous vehicle) how to travel in every kind of space after mapping in full autonomy, the project will not deal with develop hardware at all but only with software, however the project will include the use of innovative hardware.

* 1. **Intended Audience**

The project was first developed for the promotion of the research of Professor Boaz Ben Moshe, beyond that - anyone who deals in the field of autonomous vehicles will be able to use the tool that was developed.

**1.3 Intended Use**

Goals of the document:

* Describe the system
* Present the system’s requirements: Functional and non-functional
* Present the needs that the system meets
* Present the system’s users

**1.4 Project Scope**

The project is designed to advance the research of our lecturer and to provide a solution for anyone involved in the field of autonomous vehicles, so that they can use the tool in the space mapping phase and can go straight to their goals.

**1.5 Definitions and Acronyms**

System’s faults

* Depends on specific file type (bag file)
* There will be no use of the tool

1. **Overall Description**.
   1. **User Needs**

The main users of the system are the project facilitator and developers in the field of autonomous vehicles development environment supports Python

* Use only bag files
* Intel real sense camera
* Special sensors that give depth photography
  1. **Assumptions and Dependencies**

Factors that may impair system requirements

* There is not enough storage space
* Deficiency in one of the necessary parts
* Improper work with the tool

1. **System Features and Requirements** 
   1. **Functional and External Interface Requirements**

* Upload the filmed files
* File analysis in a reasonable time
* Multiple files of the same space to get additional angles
  1. **System Features**
* Saving information.
* Option to search for a specific space.

**3.3 Nonfunctional Requirements**

* Simple user interface
* Availability 24/7
* Preventing the display of videos of different spaces and the system studying them as if it were the same space.