**Business case**

**Description**

Nowadays robots get more involved in our daily life. We use them for almost everything, shopping, driving, texting, etc. Robots can take care of jobs where we humans have a hard time to or sometimes even fail to succeed. ITopia has started a new project “Rescue On Wheels”. In this project we will make a intelligent robot that can save people in trouble.

**Need and problem**

**Need**

We, students from the Amsterdam University of applied sciences, will design and build an intelligent robot. This robot will be able to drive back and forward, also is it able to steer left and right. A camera is build on the robot so that the crew who is controlling it will be able to see what the robot sees and can avoid obstacles. Some obstacles can’t be seen on the camera. Sensors will detect these instead. We will install a couple of sensors on the robot.

**Problem**

As mentioned earlier people can’t succes every job because they are lacking physically or mentally. What can be a problem for people too is the location. The robots we are making for the project “Rescue On Wheels” are especially made for unreachable locations. These robots will go through building sites or the place of accident so that the crew will not have to take any risks.

**Advantages**

The advantages of these robots are that people won’t have to take any life risking jobs to rescue people. The robots can also go through places that we can’t reach like small gaps.

**Schedule**

**Sprint 1**

In the first sprint of “Rescue On Wheels” we will design a robot that is able to move forward and backwards. This robot can steer left and right to make a turn if needed. Sensors and actuators are installed on the robot. The input that they give will be displayed, RAW, on the PI. The robot is doing all these activities through a wire that is connected on the laptop.

**Sprint 2**

In the second sprint we are repeating the activities of sprint one but this time wireless. The robot must be controlled on a portable software. For this we will make an application for the mobile to control the robot with.

**Requirements**

Functional requirements

* The robot must be able to drive forward, backwards and turn.
* The robot must be controlled wirelessly.
* The robot must collect and display data from its sensors.
* The user should be able to watch the stream from the camera.

Non functional requirements

* The robot will be wirelessly controlled from another room.
* The latency of the video stream may not be too high in order to drive the robot remotely.
* The user will control the robot wirelessly using an Android application.