RFCAR - Radio Frequency Camera Assisted Rover

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Contents

1 Project

1.1 Motivation

This project is being developed in the scope of the integrator project of LPI2. It aims to develop skills in the software engineering area and digital design, wireless communication protocols, odometric vehicle navigation, etc.

1.2 Description

The project consists of a remote controlled car used to assist exploration and maintenance domains. For this purpose, the vehicle should contain a remotely operated camera feeding back video to the user. Additionally, the vehicle must contain odometric sensors to assist in driving and prevent crashes when user is not in control, e.g., when connection is lost. The vehicle

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can be used for exploration of unaccessible areas to human operators like fluid pipelines and other hazardous sites.

1.3   Technologies

- STM32: vehicle's low level control

- Raspberry Pi: camera interface

- Android: Human Machine Interface

- Others (yet to be defined):

    - Wi-Fi
    - Bluetooth
    - GPS
    - GPRS

2   Group constitution

Name	Nr	Role
Hugo Carvalho	a85156	
Hugo Ferreira	a80665	
João de Carvalho	a83564	
João Faria	a85632	
José Mendes	a85951	
José Pires	a50178	
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3   Tutor

- Vitor Silva