Multimedia system for cars

# Description

The scope of this project is to design and implement a multimedia system for cars that has the following functionalities:

1. Enable navigation;
2. Play audio, video media;
3. Enable voice control.

The design of the project is described using UML use cases diagrams , UML class diagrams and UML sequence diagrams, while for the functionality the QT framework was chosen.

# UML use cases diagrams

## GPS use case

A diagram of gps connection

Description automatically generated

## Media use case

A diagram of a company

Description automatically generated

## Voice control use case

A diagram of a company

Description automatically generated

# UML class diagram

## Design pattern used

For this project the Factory Method Pattern was used.

Also known as Virtual Constructor, the Factory Method is related to the idea on which libraries work: a library uses abstract classes for defining and maintaining relations between objects. One type of responsibility is creating such objects. The library knows when an object needs to be created, but not what kind of object it should create, this being specific to the application using the library.

## Diagram

A diagram of a computer program

Description automatically generated

# UML Sequence Diagram

## General sequence diagram

A diagram of a project

Description automatically generated with medium confidence

## Sequence diagrams based on use cases

### GPS

A diagram of a gps connection

Description automatically generated

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| **Interactions** | **Description** |
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### Media

A diagram of a project

Description automatically generated

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| **Interactions** | **Description** |
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### Voice Control

A diagram of a control system

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| **Interactions** | **Description** |
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# Application architectureA computer screen shot of a car Description automatically generatedGenerated code

## Files

A screenshot of a computer

Description automatically generated

## Code

A screen shot of a computer program

Description automatically generated

Activity snip

A screen shot of a computer program

Description automatically generated

Activity Factory snip

A screen shot of a computer program

Description automatically generated

GPS (Activity) snip

A screen shot of a computer program

Description automatically generated

Interface snip (GPS)