

Bumpers - Problem Statement

1. About the exercise

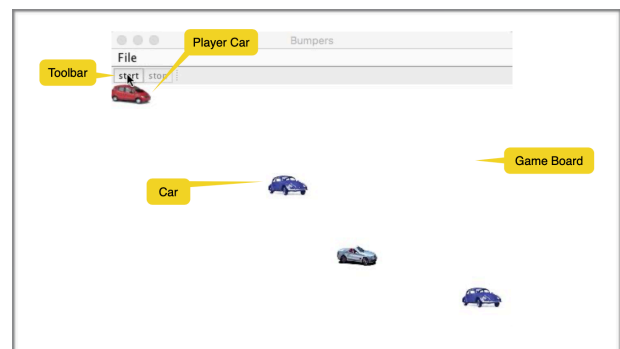
This document broadly outlines the problem statement for the Bumpers game. The more detailed task descriptions are followed in the respective tutor sessions.

2. The setting

A well known computer hardware manufacturer is about to release the first prototype of a new generation of computer mice and keyboards. The performance should be tested with a computer game, which uses the mouse to control a car and the keyboards for further game features. The company puts a great emphasis on the response speed, accuracy and durability of their products. Unfortunately the company does not have enough experts in the field of software engineering and therefore hires you, in order to develop a high quality testing video game, called "Bumpers".

3. The requested video game

Bumpers should be a single player game, where cars drive on a game board and can crash each other. In each collision, there is a winning car. The car that wins all collisions is the winner of the game. When the game is started, music is played. The game should support different types of cars and collisions. The player controls one car and can steer the direction of the car with the mouse and change its speed. The game is supposed to be platform independent. It should visualize different parameters of the car, e.g. the speed, consumption and current location. When cars crash, there has to be a sound effect. The determination of the collision winner should be changeable during the gameplay.



University App - Problem Statement

1. About

This document broadly outlines the problem statement for the university app, so the more detailed descriptions of requirements will follow.

2. The setting

Due to the increased number of motivated students, communication between the university and the students has to be made more efficient. Especially in the times of the pandemic it has become crucial to ensure that a platform for connecting and smooth information providing is readily available. Therefore, a university app is necessary. Here the students should have the possibility to find information regarding their studies, but also be able to communicate with fellow students and the instructors of visited courses.

3. The requested software

In the university app students can authenticate themselves to sign up for courses, view announcements of these courses and download course material. Before taking the exam of this course, the students can also find the right exam room in the university app without searching on Google. Besides, in the university application one can browse through other available courses and save them to their own course list.

Moreover, students are able to find other fellow students with the same interests and make contact to them by sending a friend request. After receiving such a request, a student is automatically notified and can accept it. To share their own opinion about courses and current topics, one can start new discussions by posting a new comment or reading and liking comments of other fellow students or course instructors. Students should also be able to directly chat with their friends in the provided chat system.