CSC343 Project

1 February 2023

System Requirement Specification

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Table of Contents for an SRS Document

Introduction

The System Requirements Specification (SRS) of the school transportation management application is a document that outlines the requirements and specifications for the development of an application that provides a convenient and efficient way of managing the transportation of students and staff members to and from school using buses. The application will allow students to log in and request transport, and the bus routes can be managed by school administrators. The SRS provides a comprehensive description of the functional and non-functional requirements of the application, including the user interface, system performance, security, and compatibility requirements. This document will serve as a guide for the development team to ensure the final product meets the needs of the end users. The aim of this SRS is to provide a clear and concise understanding of the application requirements, to ensure a smooth development process and successful delivery of a high-quality product for the management of school transportation using buses.

Functional requirements

Vehicle Management:

Add, update, delete and view/search information about vehicles.

Driver Management:

Add, update, delete and view/search information about drivers.

Assign drivers to vehicles.

Route Management:

Add, update, delete and view/search information about transportation routes.

Add stations to transportation routes.

Assign vehicles to transportation routes.

Station Management:

Add, update, delete and view/search information about transportation stations.

Passenger Management:

Add, update, delete and view/search information about passengers.

Add passengers to vehicles.

Non-Functional Requirements

Product requitements:

I. The application should have a user-friendly interface that is easy to navigate and use.

II. The application should be able to handle large amounts of data and provide fast and efficient performance.

III. The application should provide secure authentication and authorization mechanisms to protect sensitive information and prevent unauthorized access.

IV. The application should have a high level of availability and be accessible to users at all times.

Organizational requirements:

V. The application should be compatible with Apple devices and android phones and common web browsers.

VI. The application should have the ability to interface with MySQL.

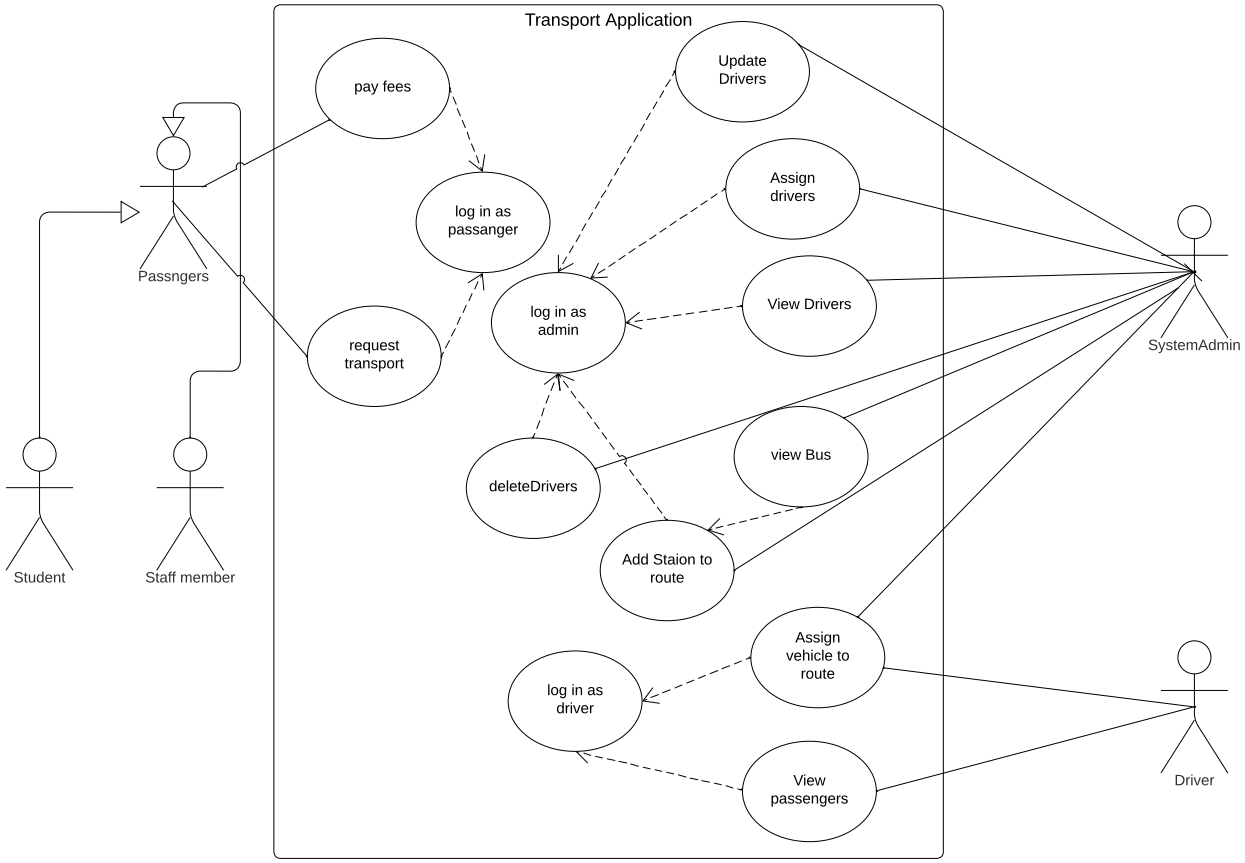
External requirements:

VII. The application must take into account Saudi Value Added Tax

Actor-goal List

Actor goal list	
Actor	Goal
SystemAdmin	manage routes manage drivers manage buses
Drivers	chooses routes know passenger
Passegners	request transport pays fee

Use-case Diagram



Use-case Descriptions

Actor: System Admin	**Use case: Add station to route**
precondition: A station can be added to route post condition A Station is added to route	
User actions	System Response
i. system admin clicks on "Add station"	i.displays a map of stations
ii. system admin clicks on station	ii. preview of the new route with the added station
iii. system admin clicks confirm	iii. displays the new route returns to the main menu and use case ends

Exception 1: Goes to "log in" use case and use case ends.
Alternative 1:

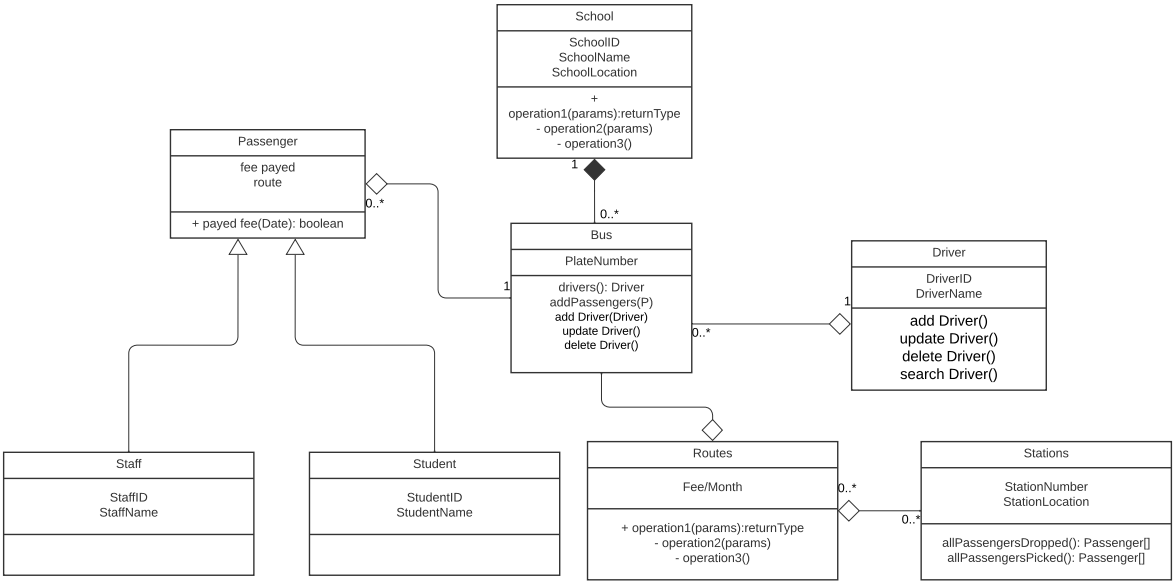
Actor: passenger	**Use case: request trasport**
precondition: passnger wants transport post condition: passnger Assigned to transport	
User actions	System Response
i. passenger opens the app	i. Checks if the passenger is logged-in, **exp1**
ii. passenger clicks request transport	ii. displays a map with routes
iii. passenger enters location	iii. system choses the route and bus best fit for the passnger
iv. passenger confirms the request	iv. system displays payment options along with the price
v. passenger enters credit card details **alt1**	v. system verfies the card **exp3** and displays recipt and route info use case ends

Exception 1: Goes to "log in" use case and use case ends.
Alternative 1: passnger clicks "pay later" print route information use case ends
Exception 2: no routes available display error message use case ends
Exception 3: card is not verified system goes to **alt1** use case ends

Actor: system admin	**Use case: assign driver**
precondition: driver can be assigned to a bus post condition driver assigned to a bus	
User actions	System Response
i. system admin clicks on "assign drivers"	i. system displays available drivers **exp1**
ii. system admin clicks on a driver	ii. displays available buses **exp2**
iii. system admin clicks on a bus	iii. displays the assigned driver and buss
iv. system admin clicks confirm	iv. system returns to main menu use case ends

Exception 1: no available drivers found system prints the message use case ends.
Exception 2: no available busses found system prints the message use case ends.

Class Diagram



Activity Diagram