Bus Pass NFC System

Analysis and Design Document

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**Group: 30432**

Revision History

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| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
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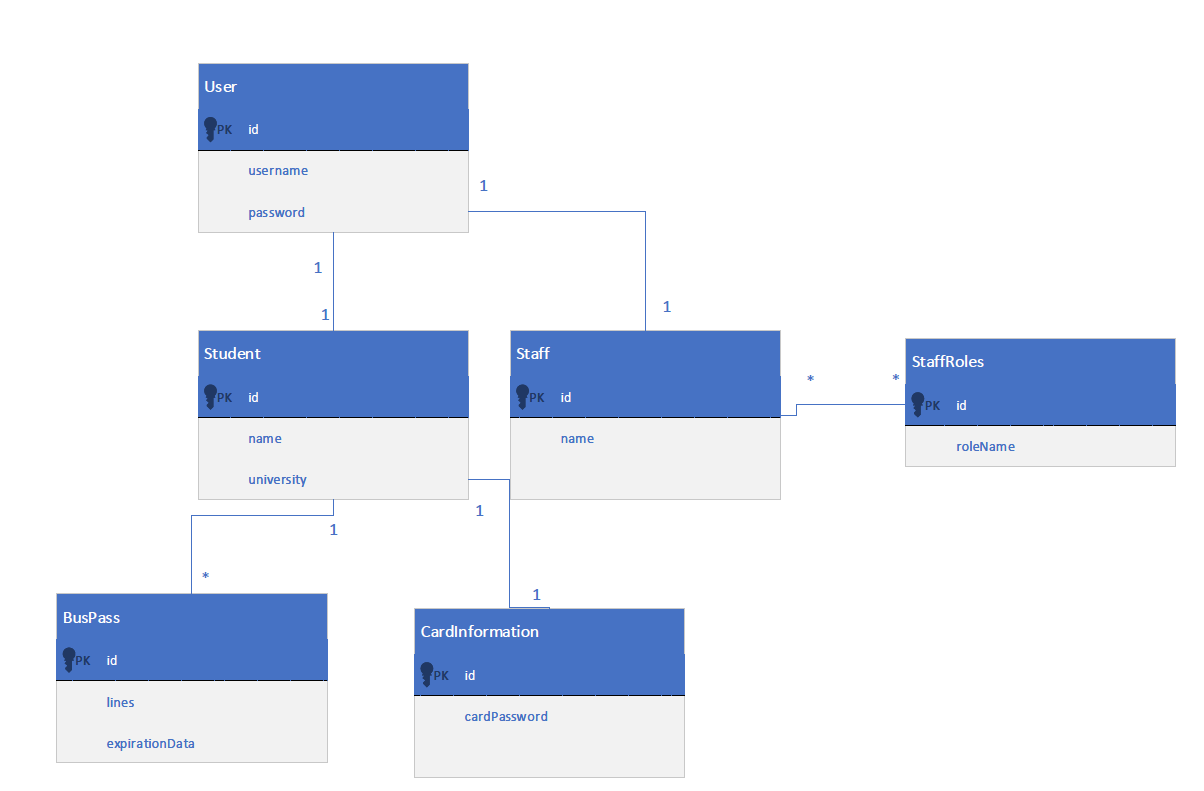
# Project Specification

This project has the sole purpose of providing a better system for students in Cluj-Napoca to manage their monthly free bus passes. The current situation has the student come each moth to the kiosk’s owned by the transportation company, and then wait in a long queue, give the person there a lot of documents that are given each month, and do not change, and then more than often choose the same 2 free lines as the previous month. It does not take too much time to realize that this process can be improved, and this is exactly what this project aims to do.

# Elaboration – Iteration 1.1

# Domain Model

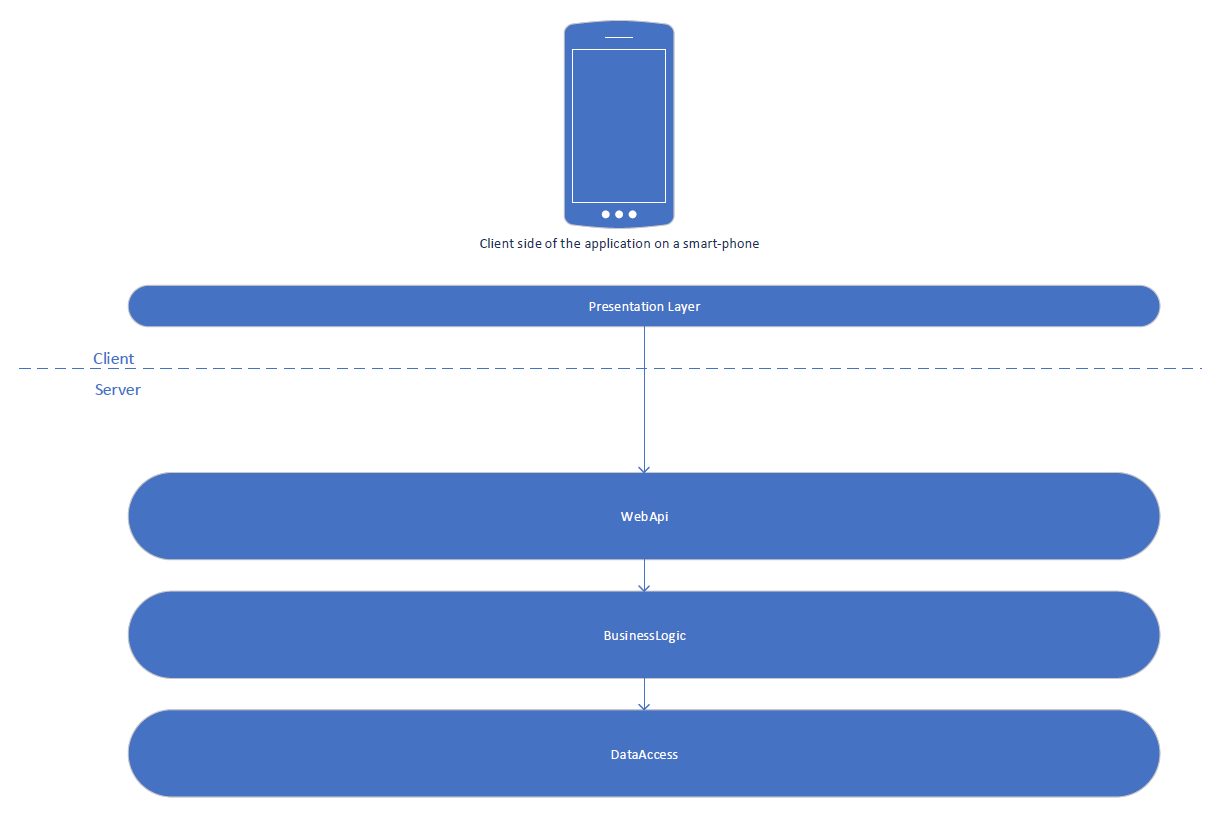
The domain model of this application is composed of the students, staff, and their additional information.



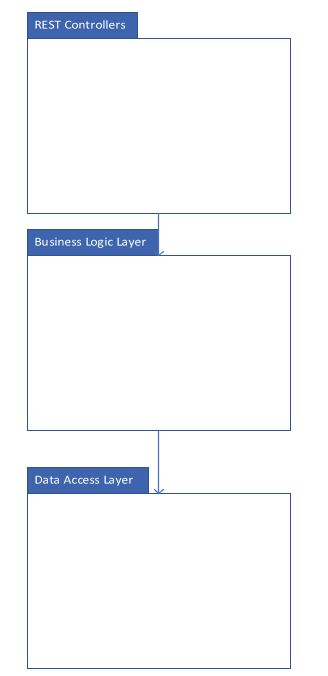
# Architectural Design

## Conceptual Architecture

The architecture of the project is based on the Client-Server architectural pattern. The server will be constructed using layered architecture and will feature a REST api so that the client application can communicate with it. The Android application will just feature the presentation layer, which will be done using the MVC model.

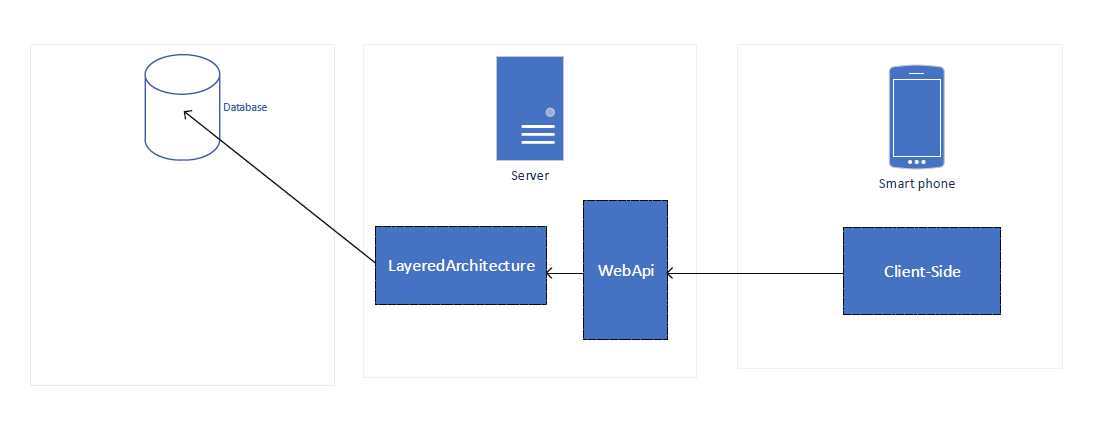


## Package Design



## Component and Deployment Diagrams

# 



# Elaboration – Iteration 1.2

# Design Model

## Dynamic Behavior

*[Create the interaction diagrams (1 sequence, 1 communication diagrams) for 2 relevant scenarios]*

## Class Design

*[Create the UML class diagram; apply GoF patterns and motivate your choice]*

# Data Model

*[Create the data model for the system.]*

# Unit Testing

*[Present the used testing methods and the associated test case scenarios.]*

# Elaboration – Iteration 2

# Architectural Design Refinement

*[Refine the architectural design: conceptual architecture, package design (consider package design principles), component and deployment diagrams. Motivate the changes that have been made.]*

# Design Model Refinement

## *[Refine the UML class diagram by applying class design principles and GRASP; motivate your choices. Deliver the updated class diagrams.]*

# Construction and Transition

# System Testing

*[Describe how you applied integration testing and present the associated test case scenarios.]*

# Future improvements

*[Present future improvements for the system]*

# Bibliography