# Parking Management System

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#### Needs and Objectives

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The overall objective of this project is to assist students, police services, and school administrators to manage campus parking.

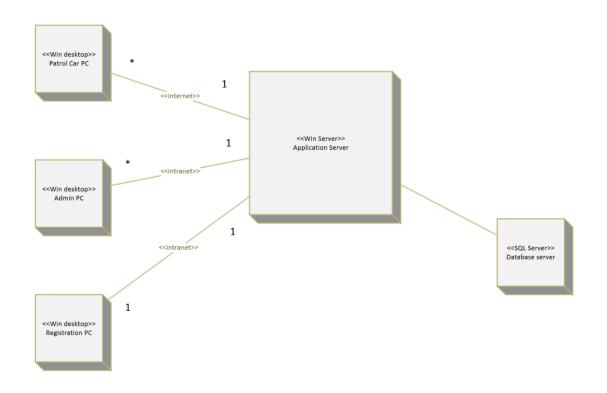
The software will need to implement a database, multiple UI frontends, and be able to generate various reports.

#### System Features

- Features the ability for users to register their vehicles on a kiosk and purchase a parking pass, their vehicle is then stored in a SQL database
- Ticketers will be able to query the database to see if a parking pass is registered, they will also be able to generate and print a ticket all from the client
- Off site users(administrators) will be able to generate reports based off any of the given criteria, relay important information such as number of tickets, revenue, etc to the university. As well as generate a report for unseen license plates to be sent to the DMV

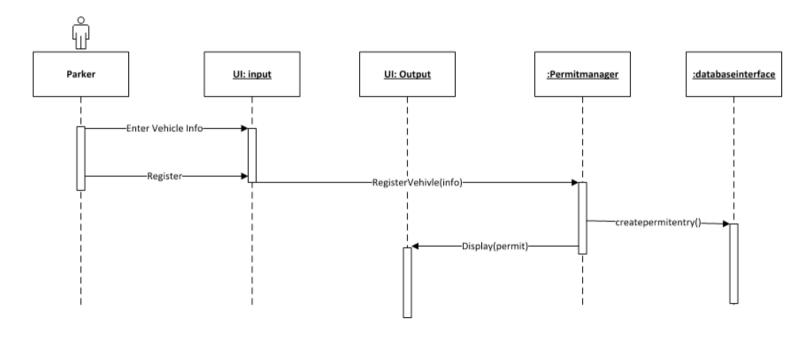
# System Architecture Design

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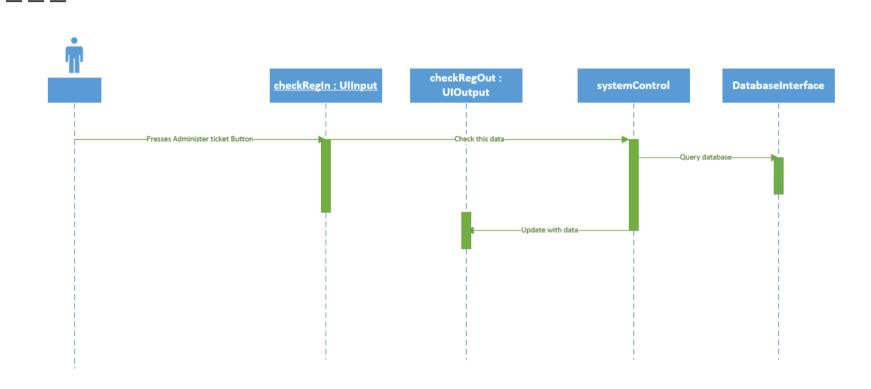


## Sequence Diagrams: Register Parking Pass

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## Sequence Diagrams: Check Registration



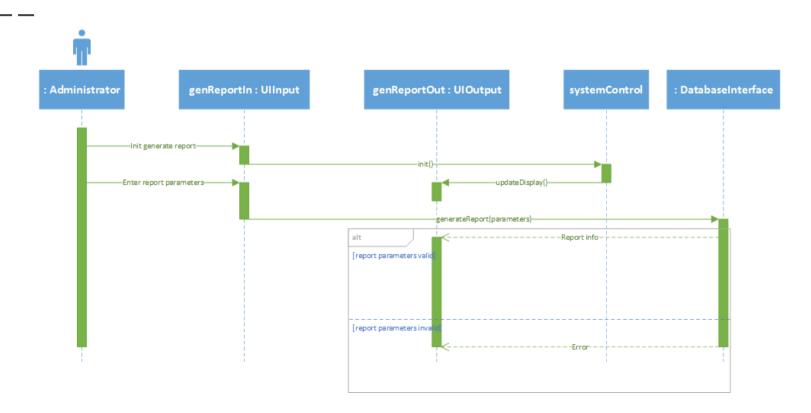
## Sequence Diagrams: Administer Ticket

ticketManager : : Ticketer adminTicketIn: UlInput adminTicketOut : UIOutput : DatabaseInterface System -Initialize Administer--updateDisplay()--Enter Field Text-Administer eenerateTicket(Field Data) <<create>> newTicket: Ticket -saveTicket(newTicket)--deleteObject()resetDisplay()

# Sequence Diagrams: Close Ticket

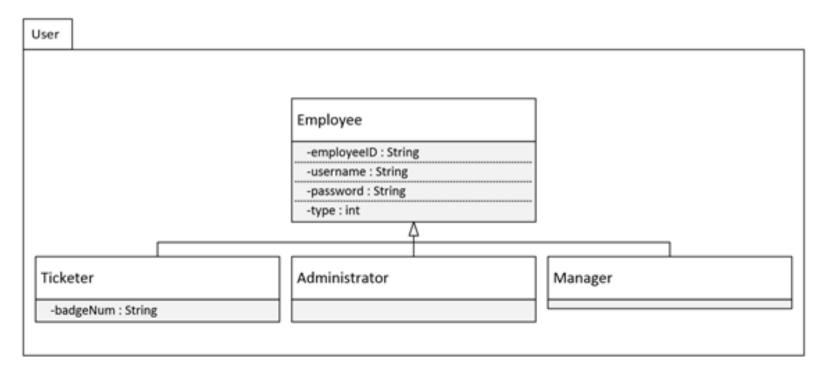
controller: TicketController Administrator : Ulinput : UIOutput : DatabaseInterface -clickCloseButton() -displayClosingPage()--closeTicket() -updateTicketStatus() —reloadTicketPage()-

## Sequence Diagrams: Generate Report



DatabaseInteraction Query +getQuery(String[]): String DatabaseHandler RegisterQ LoginQ + createPass(ParkingPass) +getQuery(String[]): String +getQuery(String[]): String +createTicket(Ticket) +checkRegistration(String): ParkingPass PSUIDQ CloseTicketQ +login(String, String): int +generateReport(String[]): ResultSet +getQuery(String[]): String +getQuery(String[]): String +closeTicket(String[]) +updateUser(Employee) +createUser(Employee) LotQ RevenueQ +deleteUser(Employee) +getLots(): String[] +getQuery(String[]): String +getQuery(String[]): String +setLots(String[]) OfficerQ PlateQ +getQuery(String[]): String +getQuery(String[]): String ParkerTypeQ RegNumQ +getQuery(String[]): String +getQuery(String[]): String

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Registrant ParkingPass Parker -perminNum -pennStateID -permitType -experationDate Ticket Car -ID: String -plateNum: String -badgeNum: String -make: String -price : double -model: String -issueDate : Date -color: String -reason: String

SystemControllers TicketController ParkingPassController +registerPass(String[]) +administerTicket(String[]) +closeTicket(String) ManagementController UIController +addUser(String[]) +editUser(String[]) +displayReport(ResultSet) +removeUser(String) +displayFrame(JFrame) SearchController System +generateReport(String[]) +searchRegistration(String[])