Sri Lanka Institution of Information Technology

Assignment 1
MLB_09.01_07

Automated Parking System

Software processing Model -IT1060

PROJECT ID	MBL_09.01_07
CASE STUDY NAME	Automated parking system
CAMPUS/CENTER	Malabe

Group Details:

	Student Registration Number	**Student Name**
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We hereby certify,

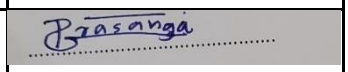
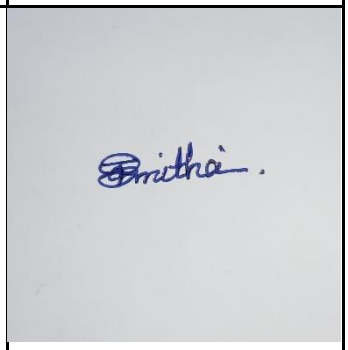
✓ The attached is our own work and no further changes will be made.

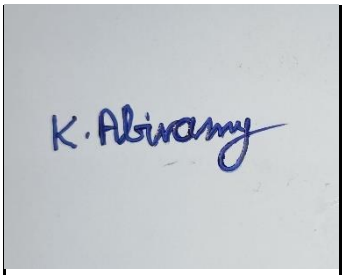
✓ We have contributed in this assignment to the best of our ability.

And we understand,

✓ We may be subject to student discipline processes in the event of an act of academic misconduct by us including an act of plagiarism or cheating.

Group Details:

	Student Name	Student Registration Number	Date	Signature
1	Godage D.N. P	IT21175398	25/3/2022	
2	Kodithuwakku K.G.K.M. J	IT21173936	25/3/2022	
3	De Davin G.G.P.N	IT21174612	25/3/2022	
4	Asmitha Thiraviyarasa	IT21176210	25/3/2022	

5	Abiramy Kumaresan	IT21176142	25/3/2022	

Introduction

An automated parking system enables people to acquire a parking space in a much more convenient way. Every day people spend a lot of time searching for a place to park their vehicles. Therefore, they need to search for available places to park their vehicles and it is only a waste of time and fuel and it also increases the traffic congestion.

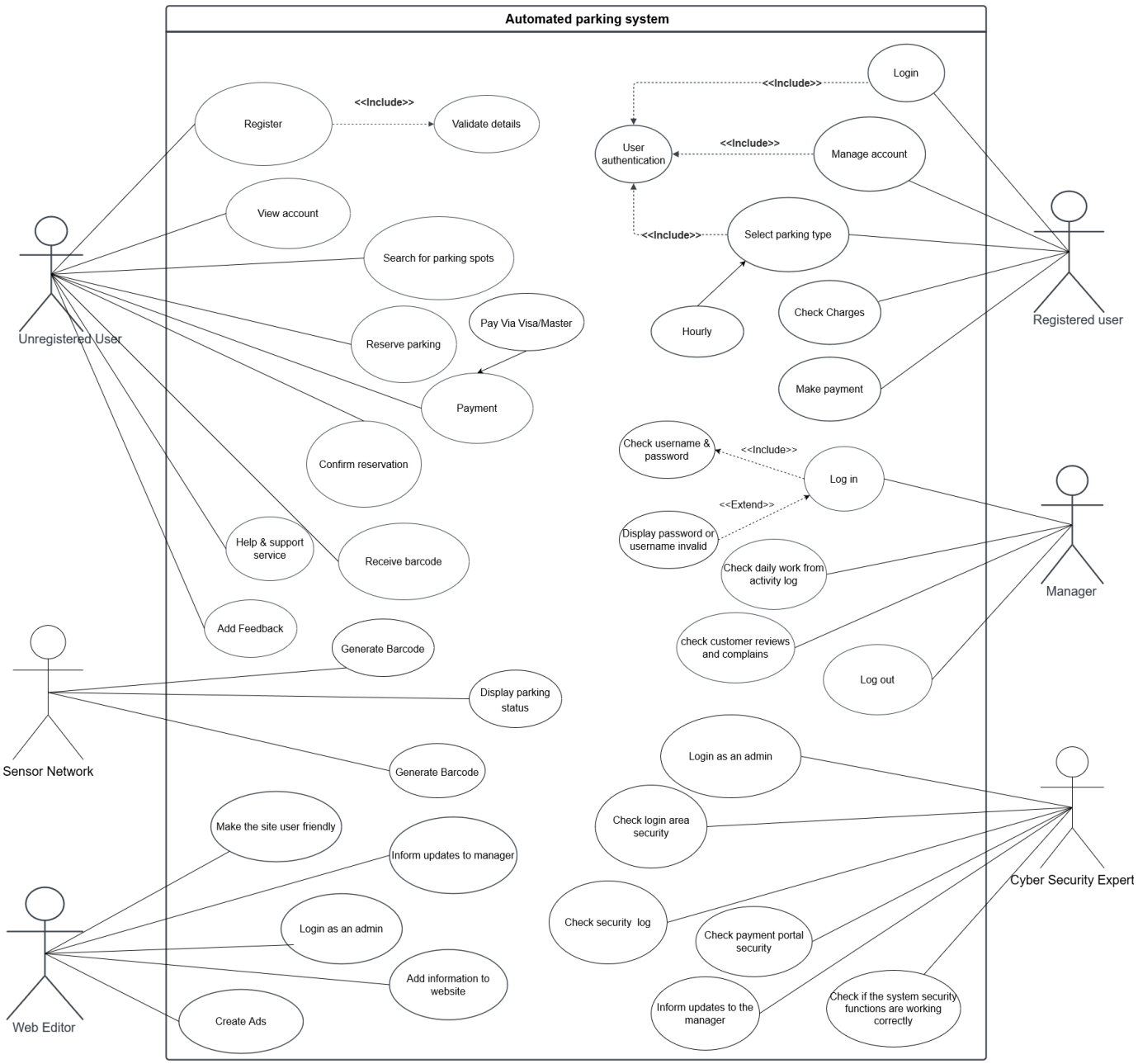
This automated parking system is dedicated for customers to check available parking area and book them for a limited time. We have enhanced the service to provide customers with the solution to lack of parking space in modern cities.

Assumptions

- We have implemented this Automated Parking System to avoid the traffic congestion and provides a safety-oriented parking spot at an affordable price. We assumed that this system must be more important for the users to find the nearby parking reservation and it helps to save time and the security of their vehicles

- Once the payment is confirmed a barcode will be generated. This will be scanned at the entrance of the parking lot.

Use case Diagram



IT21175398 Godage D.N. P

Section Worked on:

- Contributed to drawing the use case. Drew the Use case scenario for Web editor login.

Special Contributions:

- Drawing the use case diagram using software. Checking and correcting errors in use cases.
- Writing the introduction & checking for document errors and guiding, supporting group members towards the completion of the assignment

Challenges Faced:

- It was a little difficult to grasp the concept of an automated parking system and determine the exact use cases for some actors. I was not familiar with the topic and collaborating with the members in the pandemic condition was hard due to many not residing near university and being the translator of my group.

Number	APS1	
Name	Login as Admin	
Summary	Web editor logs in	
Priority	1	
Pre-conditions	Editor on the homepage or any page of the automated parking system website	
Post-conditions	Accessing the activity log	
Primary Actor	Web editor	
Trigger	Editor has decided to log in	
Main Scenario	**Step**	**Actio n**
	1	User clicks on 'Login' icon on webpage
	2	System redirects to login page
	3	Editor enters following information as required on the webpage • Password • Email Address

	4	• Password (8-15 characters) • Re-enter password

	5	Editor clicks on login button
	7	User is redirected to new page.
Extensions	**Step**	**Branching Action**
	3a	Admin does not fill in required fields. System highlights the blank fields in red and displays the following message. “Please fill in the required fields.”
	3b	User enters incorrect email address. System displays the following message. “This email address is invalid.
	3c	User enters password of incorrect length. System displays the following message. “The password you entered is incorrect”

IT21176142 Abiramy Kumaresan

Section worked on:

- Design use cases and scenario.
    - Login (existing user) – (APS 3)
    - Help and support desk – (APS 4)

Special contribution:

- We have completed research on how automated parking systems work and the use case scenario for a customer registered in an online parking system

Challenges faced:

- It was difficult to find the right information about how online parking system works because it is still a new concept in our country.
- And it was hard to find information on what kind of use cases should be in this system.

Number	APS3	
Name	Login (existing user)	
Summary	Login to the website in order to book reservation	
Priority	2	
Preconditions	Should have a valid membership	
Postconditions	User should have Login to the system and access to the parking Reservation.	
Primary Actor	Registered User	
Main Scenario	**Step**	**Action**
	1	Visit the site login page
	2	Enter the user id
	3	Enter the password
	4	Validate user
	5	If the login is valid, redirect to the page Visit the page
Extensions	**Steps**	**Branching**
	4.1	If the validation is failed check the credentials correctly
	4.2	If they are wrong retyping the credentials correctly
	4.3	If the problem continues contact the support desk or reset the credentials with the option given
	6.1	While browsing if the webpage does not respond correctly check the network connection
	6.2	If there are no issues in it, then contact the support desk

Number	APS4	
Name	Help and support desk	
Summary	Provide necessary support and help for the users	
Priority	2	
Preconditions	Should be a member of support and help desk panel	
Postconditions	Resolved user queries and issues.	
Primary Actor	Registered User	
Main Scenario	**Step**	**Action**
	1	Login to the system after entering login credentials
	2	Check the inbox for the feedback of the users
	3	Find the critical problems and prioritize them
	4	Consult the panel if extra support is needed
	5	Check the identity of the user
	6	Provide the necessary solution
	7	Skip to the next problem and work with it
Extensions	**Steps**	**Branching**
	1.1	Check the credentials correctly if login gets failed
	5.1	Double check the membership of the user
	5.2	If the problem continues contact them physically

IT21176210 Asmitha Thiraviyarasa

Section worked on:

Designed the use cases for the actor “Unregistered User”
Designed the use case scenarios for

- Register. (APS 5)
- Receive Barcode and reservation. (APS 6)

Special Contribution:

Research on case study. Provide related information about the unregistered user.

Challenges faced:

Difficult to select most suitable Use cases for the Unregistered user, Gathering information about use cases was a challenge for me.

Number	APS 5	
Name	Register	
Summary	User create new account	
Priority	3	
Pre-conditions	The user is on the homepage or on any side of the online parking slot Booking website	
Post-conditions	User register a new account	
Primary Actor	Unregistered user	
Main Scenario	**Step**	**Action**
	1	Go to the parking system website
	2	Clicks on 'Sign up' icon on the webpage
	3	The system redirects the user to the registration page
	4	Enter the following information on the webpage as required by the user. • First name • Last Name • Email • Phone number • Username • Password • City • State
	5	Agree to the term & conditions
	6	User clicks on submit form button
	7	An email will be sent you, please follow the instructions on the e-mail to confirm your email and activate your account
	8	Open the user confirmation email and click the activation link

	9	User is redirected to a new page. The following message will be displayed. "Your Account has been activated successfully."
Extensions	**Step**	**Branching Action**
	4a	If username, password is already in use, system display a message and promote user to enter another username and password
	4b	User did not fill in the required fields. Highlights the system shows the blank fields in red and the following message. "Please fill the required fields"
	4c	If invalid email address is given, display an error message to "This email address is invalid. Please enter a valid email address."
	5a	User does not accept the term and Conditions. System Shows the following message. "Please accept the terms and Conditions"
	7a	User has not received the email. Users click on "Click here to resend email."
	8a	Activation link has expired due to user taking too long to use it. The user is redirected to a new page The following message will be displayed. "Your

		activation link has expired. Please request a new link here.”

Number	APS 6	
Name	Receive Barcode and reservation	
Summary	Receive the automated parking reservation	
Priority	3	
Pre-conditions	User Should Search for Parking spots	
Post-conditions	User should receive Reservation	
Primary Actor	Unregistered user	
Main Scenario	**Step**	**Action**
	1	Enter the Home page
	2	Search for Parking spots
	3	Checks available parking locations
	4	User Reserve a Parking place
	5	Pay the payment
	6	Complete payment and Confirm Reservation
	7	Receive barcode and Reservation
Extensions	**Step**	**Branching Action**
	3a	If there are no parking spots display the following message “There is no available parking space”
	5a	System alerts that there is no insufficient account balance

	5b	If an error is found in the user payment details, system asks re-enter details

IT21174612 De Davin G.G.P.N

Section worked on:

During the SPM project, what I had to do is to work in company manager's section.

I draw a use case scenario for manager's (Kumar Fernando) by adding his main purpose.

Use case ID	APS 7
Use Case Name	Monitor employee's works.
Preconditions	Should have registered in site as a user or admin.
Primary actor	Manager
Main Success Scenario	1. Log in to the site as an admin. 2. Visit activity log section by click on it. 3. Check employee's daily activity. 4. Visit feedback page by click on it. 5. Check customers reviews. 6. Log out.
Extensions	1. If the logging details are not match with the system, a. System displays an error message. b. System shows the alternative options.

IT21173936 Kodithuwakku K.G.K.M. J

Section worked on

- I draw a use case scenario for Cyber security expert
- Assisted in finalizing the UML diagram

Special contributions

- I discussed with my group members my thoughts on the Automated Parking System and how it may be made more reliable for client use.

Challenges faced

• It was difficult to get accurate information because online parking reservations are still a new concept in our country.

• Even though this is a new topic for us, it was difficult to find information. However, we collaborated as a team and were successful.

Number	APS 8	
Name	Check login area security.	
Summary	Confirm the login area security	
Priority	1	
Preconditions	Cyber security expert should log in to the system using username and password.	
Post Conditions	Check if the system security functions are working correctly.	
Trigger	Cyber security expert must log in to the system.	
Main Scenario	**Step**	**Action**
	1	Cyber security expert must log in to the system.
	2	Cyber security expert takes a report of the users from the system.
	3	Check whether the reports are accurate.
	4	Inform updates to the manager.
	5	Confirm the system security function is working properly.
Extensions	**Steps**	**Branching action**
	1a	Log in to the system using username and password.
	1b	Reset the password if it forgot and login again to the system.
	3a	If the report is not accurate remove the user from the system.
Open Issues		Update the manager with accurate information.