SLIIT
Discover Your Future

BSc (Hons) in Information Technology

Assignment 1 Cover Sheet

IT1060 – Software Process Modeling **Semester 2 Year 01**

Semester II- 2022

PROJECT ID	**Y1S2_2023_MTR_G10**
CASE STUDY NAME	**Bus Scheduling and Booking System**
CAMPUS/CENTER	**SLIIT-MATARA**

Group Details:

	Student Registration Number	Student Name
1	IT22002174	DINETH T.H.V.
2	IT22315496	ANURADHA D.P.G.C.
3	IT22349460	WARUNIKA R.S.
4	IT22352026	HANSARA K.D.K.U.
5	IT22909428	NISFA N.M.F.

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Assignment 1 Certify Sheet

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We hereby certify,

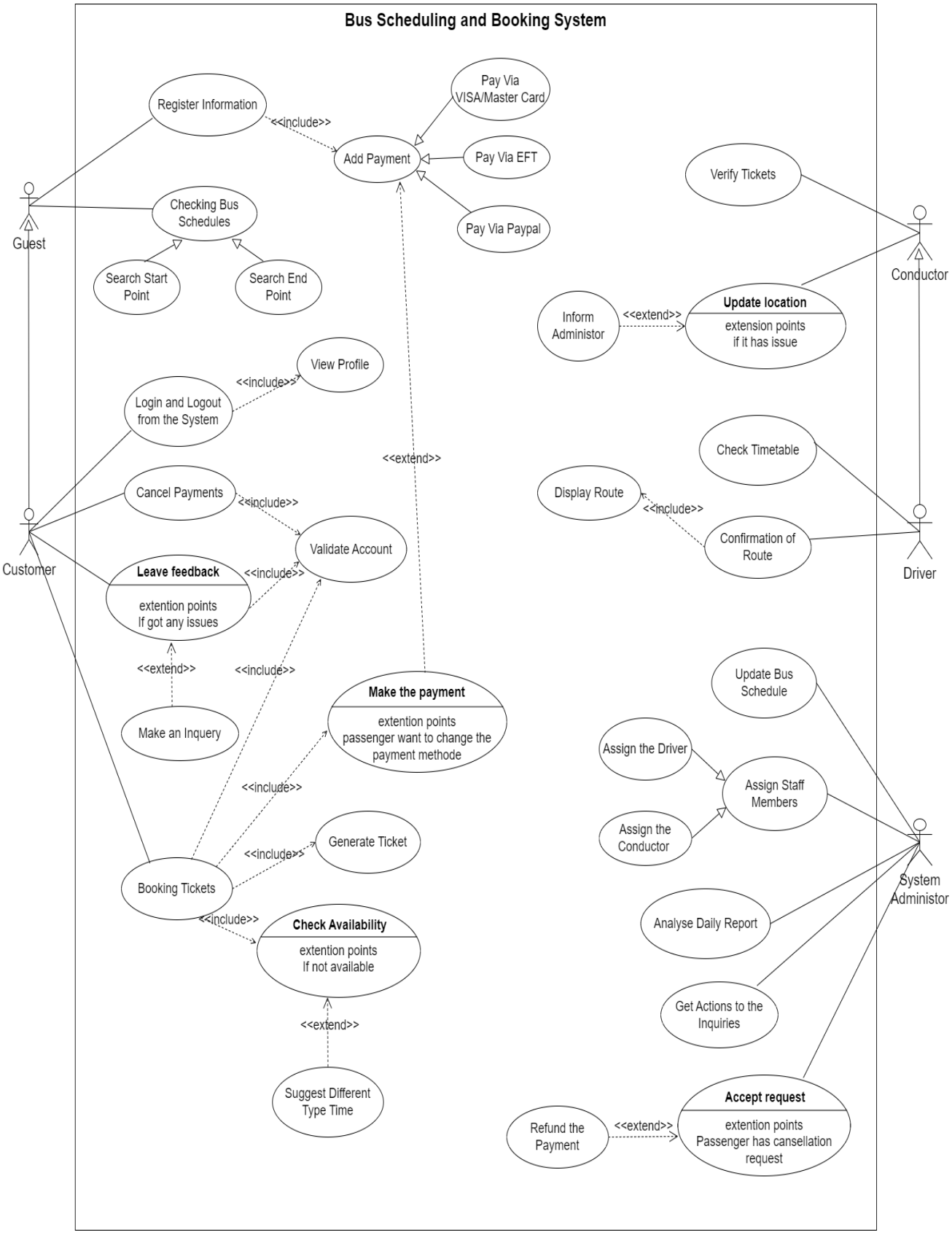
☑ The attached is our own work and no further changes will be made.

☑ 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	DINETH T.H.V.	IT22002174	28/04/2022	
2	ANURADHA D.P.G.C.	IT22315496	28/04/2022	
3	WARUNIKA R.S.	IT22349460	28/04/2022	
4	HANSARA K.D.K.U.	IT22352026	28/04/2022	
5	NISFA N.M.F.	IT22909428	28/04/2022	


Bus Scheduling and Booking System
Register Information
<<include>>
Add Payment
Pay Via VISA/Master Card
Pay Via EFT
Pay Via Paypal
Guest
Checking Bus Schedules
Search Start Point
Search End Point
Verify Tickets
Conductor
Inform Administor
<<extend>>
Update location
extension points
if it has issue
View Profile
<<include>>
Login and Logout from the System
<<extend>>
Check Timetable
Display Route
<<include>>
Confirmation of Route
Cancel Payments
<<include>>
Validate Account
Customer
Driver
Leave feedback
extention points
If got any issues
<<include>>
<<extend>>
<<include>>
Make an Inquery
Make the payment
extention points
passenger want to change the payment methode
Update Bus Schedule
Assign the Driver
Assign Staff Members
Assign the Conductor
<<include>>
<<include>>
Generate Ticket
Booking Tickets
System Administor
<<include>>
Check Availability
extention points
If not available
Analyse Daily Report
Get Actions to the Inquiries
<<extend>>
Suggest Different Type Time
Accept request
extention points
Passenger has cansellation request
Refund the Payment
<<extend>>

Number	1	
Name	Register Information	
Summary	Guest creates a new account	
Priority	-	
Preconditions	-	
Postcondition	System sends an Email about the confirmation of registrations	
Primary Actor(s)	Guest	
Secondary Actor(s)	-	
Trigger	Guest searching for a schedule	
Main Scenario	**Step**	**Action**
	1	The system displays the bus schedule page
	2	User inputs the date
	3	User inputs the start point and end point
	4	User clicks the search button
	5	The system displays the bus schedule
	6	User checks the relevant bus schedule
	7	User selects one of a schedule
	8	The system displays information on bus details
Extensions	**Step**	**Branching Action**
	8. a	If the user doesn't accept the terms and conditions and privacy policies, display an error message
Open issues	-	-

Number	2	
Name	Check the bus schedule	
Summary	View the schedule and search the bus availability	
Priority	-	
Preconditions	-	
Postcondition	System sends an email about the confirmation of registrations	
Primary Actor(s)	Guest	
Secondary Actor(s)	-	
Trigger	Guest has chosen to register a new account	
Main Scenario	**Step**	**Action**
	1	The system displays a registration form
	2	User enters user information
	3	User creates a username and password
	4	The system verifies the password
	5	The system requires the payment details
	6	The system displays the payment options
	7	User selects a payment option

	8	Terms and conditions and privacy policies are requested by the system
	9	User submits the registration form
	10	The system displays a successful message
Extensions	**Step**	**Branching Action**
	2. a	If the user inputs an invalid name, suggest a valid name
Open issues	-	-

Number	3	
Name	Login account	
Summary	User wants to log in to the system	
Priority	-	
Preconditions	The customer should be registered	
Postcondition	User logged in to the system	
Primary Actor(s)	Customer	
Secondary Actor(s)	-	
Trigger	The user has decided to login	
Main Scenario	**Step**	**Action**
	1	The login interface is displayed by the system
	2	Customer inputs a username and password
	3	System authenticates the username and password
	4	System displays the welcome message
Extensions	**Step**	**Branching Action**
	3. a	System notifies that the user has entered an invalid username or password
	3. b	System displays "Enter a valid username or password."
Open issues	-	-

Number	4	
Name	Booking a ticket	
Summary	Ticket reservation	
Priority	-	
Preconditions	The user has already logged in to the system	
Postcondition	The system emails a ticket to the user	
Primary Actor(s)	Customer	
Secondary Actor(s)	-	
Trigger	The user has decided to reserve a ticket	
Main Scenario	**Step**	**Action**
	1	The search schedule page loads on the system
	2	User searches the bus schedule

	3	User purchases the tickets
	4	The system verifies the availability
	5	User makes the payment
	6	System administrator validates the reservation
	7	System creates the ticket
	8	System displays "The reservation is confirmed."
Extensions	**Step**	**Branching Action**
	4. a	System alerts the user that the ticket is unavailable
	4. b	System suggests a new schedule
	5. a	Passenger wants to change the payment method
	5. b	System loads add payment method page
Open issues	-	-

Number	5	
Name	Update location	
Summary	Enter information on the time of dispatch and arrival, any deviations from the anticipated timetable, and more. A conductor must notify the authority right away if there is an unforeseen impediment that changes the time and route by updating the system with his data	
Priority	-	
Preconditions	The system will prompt with a notification when the departure time has reached	
Postcondition	System displays "Successfully arrived at the location."	
Primary Actor(s)	Conductor	
Secondary Actor(s)	-	
Trigger	-	
Main Scenario	**Step**	**Action**
	1	Click the notification from the system
	2	It loads a screen with real-time location status updates
	3	When the bus starts the journey, the conductor changes the departed status to 'yes.'
	4	If there are any issues that affect the usual, such as floods, roadblocks, or accidents, the conductor has to update during the journey
	5	If the conductor updates a problem, inform the appropriate authorities about the expected travel deviation
	6	At the time when the bus arrived at the location, he immediately had to update that they had arrived
	7	Process the journey data into a report
Extensions	**Step**	**Branching Action**
	-	-
Open issues	-	-

Number	6	
Name	Confirm route	
Summary	Identify the route, and the schedule and confirm he/she goes through the details	
Priority	-	
Preconditions	Bus driver assigned	
Postcondition	Finish the journey	
Primary Actor(s)	Driver	
Secondary Actor(s)	-	
Trigger	User has chosen to confirmation of route identification	
Main Scenario	**Step**	**Action**
	1	System displays the details of the route
	2	Driver watches System details
	3	The driver then verifies that he has confirmed the route by clicking the confirmation button
Extensions	**Step**	**Branching Action**
	-	-
Open issues	-	-

Number	7	
Name	Accept request	
Summary	Manage the reservations and cancellations of tickets	
Priority	-	
Preconditions	User has to login to the system	
Postcondition	User confirms the requests made by passengers	
Primary Actor(s)	System Admin	
Secondary Actor(s)	-	
Trigger	-	
Main Scenario	**Step**	**Action**
	1	The system displays the requests
	2	User views the request
	3	User selects the request
Extensions	**Step**	**Branching Action**
	-	-
Open issues	-	-

Special Contributions and Challenges Faced

As IT22909428 (NISFA N.M.F.)

a) Section Worked On

- Designed use cases for the System Admin.
- Wrote scenarios for "Register Information" and "Booking a ticket".

b) **Special Contribution**

As the team leader, I gathered my teammates, and we discussed our topic, with me contributing my ideas. I did research after getting a good understanding of our system. I gathered all the information that could be useful for our topic. After that, I told my friends about it.

c) Challenges Faced

For the purpose of finishing this work, we encountered numerous challenges. In order to celebrate the Sinhala and Tamil New Year, we had to take a weeklong vacation. Students cannot access the campus during that period. Since many of our members live far away, we were unable to set up a suitable time for a get-together. To communicate with them through the Teams platform, we had to rely on the Internet. But even though, it was a little difficult for some of my teammates who lived in remote locations because of connection problems. But despite the difficulties and obstacles we encountered, we managed to go beyond them and give this project everything we had.

As IT22315496 (ANURADHA D.P.G.C)

a) Section Worked On

- Designed use cases for the Customer.
- Wrote scenarios for "Login account" and "Accept request".

b) **Special Contribution**

I learned more about the operation of ticket reservation systems and how to use them effectively in your own system. I did some research and obtained the appropriate case diagram templates. Additionally, I did some internet research on how to create use-case scenarios and collaborated with my group to determine the proper sequence of events.

c) **Challenges Faced**

Because use-case diagrams and scenarios come in various formats, it was difficult for us to choose the one that best fit the assignment's requirements. It was challenging to arrange meetings with group members to discuss the project because of the New Year's holidays. We had to talk for a long time before deciding on an excellent course of action because everyone had various perspectives. Connection issues slowed down our project process when we were in a meeting.

As IT22352026 (HANSARA K.D.K.U)

a) Section Worked On

- Designed use cases for the Guest.
- Wrote a scenario for "Check the bus schedule."

b) **Special Contribution**

Maintaining communication with the participants, informing them of CourseWeb notifications relevant to the project, and ensuring that the project adheres to the grading criteria and the assigned topic. Also helped with the report's grammar check.

c) **Challenges Faced**

The primary difficulty we encountered was the on-campus ban imposed by the New Year's festivities. Since most of our team members reside far away, it was difficult for us to get together. For the remainder of the project, we were able to work around that and continue using the Teams online platform.

As IT22002174 (DINETH T.H.V)

a) Section Worked On

- Designed use cases for the Conductor.
- Wrote scenario for "Update Location."

b) Special Contribution

I discussed diagramming techniques with my group members, did use-case research, and asked a system manager for guidance to learn more about my specific part.

c) Challenges Faced

Finding information on this specific usage scenario was challenging due to the shortage of data on this subject available online and elsewhere. Because our team members are spread out, we had to communicate via the Internet. We were unable to discuss some topics as a result. The poor network connectivity made it difficult even to make those calls.

As IT22349460 (WARUNIKA R.S)

a) Section Worked On

- Designed use cases for the Driver.
- Wrote scenario for "Confirm Route."

b) Special Contribution

Went over the SPM notes. I looked for use-case scenario videos on Google and YouTube to learn more. Shared thoughts with group members and got input from them for constructed use-case scenarios.

c) Challenges Faced

During this time, we faced a lot of difficulties. Because our group members live in different places and our university was closed for the holidays, there was little opportunity to meet with them and discuss our project. We had to call each other to discuss it, but the network connections also had some problems. Finding more information on use cases for this issue was difficult. However, with the help of the data we identified and gathered, we were able to complete our task.