SUBMISSION 2

TEAM 1

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SWE215 - 191

4. System Requirements
a. Use Case Diagram
[Review Submission 1]
b. Use Case Description

Use Case Number	1
Use Case Name	Make request
Author/Source	Hashim Alghamdi
Date of Creation	October 24, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. The user has not reached request limit.
Successful Post Condition	1. Request is made 2. Request is assigned to serviceman
Actors	User
Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user enters the homepage after logging in.**
2. **The user selects "Make request".**
3. **The user specifies type of request.**
4. **The user selects from the list of preset requests.**
5. **The user specifies request's location.**
6. **The user confirms the request.**
7. **End use case.**

Alternate flows:

2.1.1 Display message of "Request limit has been reached, try again in *Time countdown for next request*".

2.1.2 Go to 7.

6.1.1 Display message of "Our servicemen are busy, your request cannot be handled at specified time".

6.1.2 Display option "Add request to queue".

6.1.3 Display option "Change request details".

6.1.4 Display option "Cancel request".

  6.1.2.1 Request is added to the queue.

  6.1.3.1 Go to 3.

  6.1.4.1 Go to 7.

Use Case Number	2
Use Case Name	Track request
Author/Source	Hashim Alghamdi

Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. Existing request
Successful Post Condition	1. The user views the progress of the request
Actors	User
Priority	High
Difficulty	Medium
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user enters the homepage after logging in.**
2. **The user selects "Track requests".**
3. **The user views requests list.**
4. **The user chooses request.**
5. **The user views request progress.**
6. **End use case.**

Alternate flows:

3.1.1 Display message of "No requests found".

3.1.2 Go to 6.

Use Case Number	3
Use Case Name	Display ETA
Author/Source	Hashim Alghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. Existing request 4. User is viewing the request progress
Successful Post Condition	1. The user can see the estimated time of arrival of the serviceman
Actors	User
Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user is viewing the request progress.**
2. **The user selects "Display ETA".**
3. **The user views the estimated time of arrival of the serviceman.**
4. **End use case.**

Alternate flows:

None.

Use Case Number	4
Use Case Name	View previous requests
Author/Source	Hashim Alghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. Existing processed request
Successful Post Condition	1. The user views previous requests
Actors	User
Priority	Medium
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user enters the homepage after logging in.**
2. **The user selects "Previous requests".**
3. **The user views requests list.**
4. **The user chooses a processed request from the list.**
5. **The user views the request's details.**
6. **End use case.**

Alternate flows:

2.1.1 Display message of "No requests found".

2.1.2 Go to 6.

Use Case Number	5
Use Case Name	Write feedback
Author/Source	Hashim Alghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. Existing processed request
Successful Post Condition	1. Feedback is sent to the admin
Actors	User
Priority	Medium
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins by selecting "Previous requests".**

2. **The user views requests list.**
3. **The user chooses a processed request from the list.**
4. **The user writes the feedback.**
5. **The user selects "Send feedback".**
6. **End use case.**

Alternate flows:

2.1.1 Display message of "No requests found".

2.1.2 Go to 6.

Use Case Number	6
Use Case Name	Choose preferable time
Author/Source	Hashim Alghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system
Successful Post Condition	1. Admin is informed with user's preferred time for service
Actors	User
Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user selects "Make request".**
2. **The user selects "Preferred time".**
3. **The user specifies preferred time of service.**
4. **End use case.**

Alternate flows:

3.1.1 Display message of "No available servicemen at *Chosen time by user* ".

3.1.2 Go to 2.

Use Case Number	7
Use Case Name	Display queue
Author/Source	Hashim Alghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. Existing request 4. All available servicemen are busy with other requests
Successful Post Condition	1. The user views request queue
Actors	User
Priority	Medium
Difficulty	Medium
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user selects "Track request"**
2. **The user views requests list**
3. **The user chooses request**
4. **The user views request progress**
5. **The user selects "Display queue"**
6. **The user views request queue**
7. **End use case**

Alternate flows:

2.1.1 Display message of "No requests found".

2.1.2 Go to 7.

Use Case Number	8
Use Case Name	Specify location
Author/Source	Hashim Alghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system
Successful Post Condition	1. Location of request is specified
Actors	User
Priority	High
Difficulty	Medium
Version	1.0

Related Use Cases	None.

Main Flow

1. **The use case begins when the user selects "Make request"**
2. **The user selects "Location"**
3. **The user specifies the location of the request**
4. **End use case**

Alternate flows:

None.

Use Case Number	9
Use Case Name	Logout
Author/Source	Hashim Alghamdi
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system
Successful Post Condition	1. User logs out of the system
Actors	User, Admin, Serviceman
Priority	High
Difficulty	Low
Version	1.0

Related Use Cases	Login

Main Flow

1. **The use case begins when the user selects the hamburger menu.**
2. **The user selects "Logout".**
3. **End use case.**

Alternate flows:

None.

Use Case Number	10
Use Case Name	Add description
Author/Source	Hashim Alghamdi
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. The user is in the process of making request.
Successful Post Condition	1. A brief description of the problem is added to the request.
Actors	User
Priority	High
Difficulty	Low
Version	1.0

Related Use Cases	None.

Main Flow

1. **The use case begins when the user selects "Make request".**
2. **The user selects "Description".**
3. **The user writes the description.**
4. **End use case.**

Alternate flows:

None.

Use Case Number	11
Use Case Name	Login
Author/Source	Salman Al-Ghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the internet
Successful Post Condition	1. Actor is logged in to the system
Actors	User, Servicemen, Administrator

Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	Verify Credentials

Main Flow

1. **The use case begins when the user enters his credentials.**
2. **The system checks his credentials for verification.**
3. **The system confirms the credentials.**
4. **The user is logged in.**
5. **End use case.**

Alternative flow:

2.1. The system rejects the login request.

2.2. The system asks the user if he wants to login again.

2.2.1 If yes, go to 1.

2.2.2 If no, close the application.

2.3. Go to 5

Use Case Number	12
Use Case Name	View Assigned Request

Author/Source	Salman Al-Ghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the internet 2. User logged in to the system. 3. Existing request 4. Administrator assigned the request to the serviceman
Successful Post Condition	1. The serviceman read the description and found the location of the request.
Actors	Servicemen
Priority	High
Difficulty	Medium
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the serviceman selects "View Requests"**
2. **The system displays all the assigned requests by the administrator.**
3. **The system displays the description and location of each request.**
4. **The servicemen select "back"**
5. **End use case.**

Alternate flows:

None.

Use Case Number	13
Use Case Name	Report Success
Author/Source	Salman Al-Ghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the Internet 2. Serviceman is logged in to the system 3. Existing request 4. Administrator assigned request to the serviceman 5. Serviceman accepted the request 6. Serviceman operates the required request.
Successful Post Condition	1. The administrator adds the report to the system's database. 2. The system notify the user that the request is completed. 3. The system removes the request from the serviceman's assigned requests list.
Actors	Servicemen
Priority	High

Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the serviceman selects "View Requests"**
2. **The system displays all the assigned requests by the administrator.**
3. **The serviceman selects the required request.**
4. **The serviceman selects "Success"**
5. **The serviceman confirms once again by selecting "Yes"**
6. **End user case.**

Alternate flows:

None.

Use Case Number	14
Use Case Name	Report Failure
Author/Source	Salman Al-Ghamdi
Date of Creation	October 25, 2019

Precondition(s)	1. Connection to the Internet 2. Serviceman is logged in to the system 3. Existing request 4. Administrator assigned request to the serviceman 5. Serviceman accepted the request 6. Serviceman operates the required request.
Successful Post Condition	1. The administrator adds the report to the system's database. 2. The system notify the user that the request is completed. 3. The system asks the user if he wants to request another service. 4. If yes, the system re-submits the request so that another serviceman could handle it. 5. If not, the system removes the request from the serviceman's assigned requests list.
Actors	Servicemen
Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the serviceman selects "View Requests"**
2. **The system displays all the assigned requests by the administrator.**
3. **The serviceman selects the confirmed request.**

4. **The serviceman selects "Failure"**
5. **The serviceman confirms once again by selecting "Yes"**
6. **End user case.**

Alternate flows:

None.

Use Case Number	15
Use Case Name	Confirm Handling
Author/Source	Salman Al-Ghamdi
Date of Creation	October 25, 2019
Precondition(s)	1. Connection to the Internet 2. Serviceman is logged in to the system 3. Existing request 4. Administrator assigned request to the serviceman 5. Serviceman views assigned requests.
Successful Post Condition	1. The system updates the status of the request as taken. 2. The system updates the status of the serviceman as busy. 3. The user receives a notification that the serviceman is on his way.
Actors	Servicemen

Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the serviceman selects "View Requests"**
2. **The system displays all the assigned requests by the administrator.**
3. **The serviceman selects one requests.**
4. **The serviceman selects "Handle Request"**
5. **The serviceman confirms by selecting "Yes"**
6. **End use case.**

Alternate flows:

None.

Use Case Number	16
Use Case Name	Cancel Request
Author/Source	Salem Bamukhier
Date of Creation	October 26, 2019

Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. Existing unhandled request
Successful Post Condition	1. Request has been canceled. 2. The system saves the unhandled request to the user profile.
Actors	User
Priority	Medium
Difficulty	Low
Version	1.0
Related Use Cases	None.

1. **The use case begins when the user is viewing the request progress.**
2. **The user selects "Cancel Request".**
3. **The user confirms canceling the request.**
4. **End use case.**

Alternate flows:

None.

Use Case Number	17

Use Case Name	Make Suggestions
Author/Source	Salem Bamukhier
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system
Successful Post Condition	1. Suggestions have been sent. 2. Suggestions have been saved in the system for further considerations.
Actors	User
Priority	Medium
Difficulty	Low
Version	1.0
Related Use Cases	None.

5. **The use case begins when the user is viewing the request progress.**
6. **The user selects "Make Suggestions".**
7. **The user enters their suggestions through text box.**
8. **End use case.**

Alternate flows:

None.

Use Case Number	18
Use Case Name	File Complaints
Author/Source	Salem Bamukhier
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. Rejected request
Successful Post Condition	1. Complaints have been filed.
Actors	User
Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user enters the homepage after logging in.**
2. **The user selects "File Complaints".**
3. **The user specifies the type of the complaint.**
4. **The user enters any additional details.**
5. **End use case.**

Alternate flows:

None.

Use Case Number	19
Use Case Name	Re-order Request
Author/Source	Salem Bamukhier
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. Existing request is unhandled or rejected.
Successful Post Condition	1. Request has been re-ordered. 2. Request has been assigned to serviceman.
Actors	User
Priority	High

Difficulty	Medium
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user is viewing the request progress.**
2. **The user find that the request is handled or rejected.**
3. **The user choose to re-order the request.**
4. **End use case.**

Alternate flows:

None.

Use Case Number	20
Use Case Name	Select Category
Author/Source	Salem Bamukhier
Date of Creation	October 26, 2019

Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. The user is in the process of making request.
Successful Post Condition	1. The category of the request has been selected.
Actors	User
Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user is making the request.**
2. **The user selects the category of the request.**
3. **End use case.**

Alternate flows:

None.

Use Case Number	21

Use Case Name	Select Frequent Problems
Author/Source	Salem Bamukhier
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. The user is in the process of making request.
Successful Post Condition	2. One of the frequent problems has been selected.
Actors	User
Priority	Low
Difficulty	Low
Version	1.0
Related Use Cases	None.

Main Flow

4. **The use case begins when the user is making the request.**
5. **The user selects one of the frequent problems.**
6. **End use case.**

Alternate flows:

None.

Use Case Number	22
Use Case Name	Attach media
Author/Source	Salem Bamukhier
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. User is logged in to the system 3. The user is in the process of making request.
Successful Post Condition	1. The media is attached to the request.
Actors	User
Priority	Medium
Difficulty	Medium
Version	1.0
Related Use Cases	None.

Main Flow

1. **The use case begins when the user is making the request.**
2. **The user selects the category of the request.**
3. **The user selects one of the frequent problems request.**
4. **The user selects attach media.**
5. **The user attaches the media**
6. **End use case.**

Alternate flows:

None.

Use Case Number	23
Use Case Name	View Incoming Requests
Author/Source	Haitham Al-Saeed
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. User Logged in to the system
Successful Post Condition	1. Viewed Incoming Requests 2. Can view the details of a requests

Actors	Administrator
Priority	High
Difficulty	Medium
Version	1.0
Related Use Cases	None

Main Flow

1. **The use case begins when the admin enters the homepage after logging in.**
2. **The admin selects "View incoming requests".**
3. **The admin can view incoming submitted requests.**
4. **End use case.**

Alternative flow:

None

Use Case Number	24
Use Case Name	View Contact Info

Author/Source	Haitham Al-Saeed
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. The actor logged in to the system 3. Viewed Incoming Requests
Successful Post Condition	View Contact Info
Actors	Administrator
Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	None

Main Flow

1. **The use case begins when the user view incoming submitted requests.**
2. **The user selects a request.**
3. **The user selects "View user' contact info".**
4. **The user can view user' contact info.**
5. **End use case.**

Alternative flow:

None

Use Case Number	25
Use Case Name	View Complaint
Author/Source	Haitham Al-Saeed
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. The actor logged in to the system
Successful Post Condition	1. Complaint viewed
Actors	Administrator
Priority	High
Difficulty	Low
Version	1.0
Related Use Cases	None

Main Flow

1. **The use case begins when the administrator enters the homepage after logging in.**
2. **The administrator selects "View complaint".**
3. **The administrator view the complaint.**
4. **End use case.**

Alternative flow:

None

Use Case Number	26
Use Case Name	View Ratings
Author/Source	Haitham Al-Saeed
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. The actor logged in to the system 3. Existing finished requests
Successful Post Condition	1. Servicemen's ratings are viewed
Actors	Administrator
Priority	High

Difficulty	Low
Version	1.0
Related Use Cases	None

Main Flow

1. **The use case begins when the administrator enters the homepage after logging in.**
2. **The administrator selects "Servicemen list".**
3. **The administrator selects the name of the Serviceman.**
4. **The administrator can view Serviceman' ratings.**
5. **End use case.**

Alternative flow:

None

Use Case Number	27
Use Case Name	Assign Requests
Author/Source	Haitham Al-Saeed
Date of Creation	October 26, 2019

Precondition(s)	1. Connection to the internet 2. The actor logged in to the system 3. Viewed Incoming Requests
Successful Post Condition	1. Assigned a Request
Actors	Administrator
Priority	High
Difficulty	Medium
Version	1.0
Related Use Cases	None

Main Flow

1. **The use case begins when the administrator views incoming submitted requests.**
2. **The administrator selects a request.**
3. **The administrator selects "Assign Request".**
4. **The request is assigned to the Servicemen.**
5. **End use case.**

Alternative flow:

None

Use Case Number	28
Use Case Name	Display Sorted
Author/Source	Haitham Al-Saeed
Date of Creation	October 26, 2019
Precondition(s)	1. Connection to the internet 2. The actor logged in to the system 3. Viewed Incoming Requests
Successful Post Condition	1. Viewed Incoming Requests - sorted
Actors	Administrator
Priority	High
Difficulty	High
Version	1.0
Related Use Cases	None

Main Flow

1. **The use case begins when the administrator views incoming submitted requests.**
2. **The administrator selects "Sort by".**

3. **The administrator selects a sorting type (priority, time precedence, category).**
4. **The administrator can view the incoming requests sorted.**
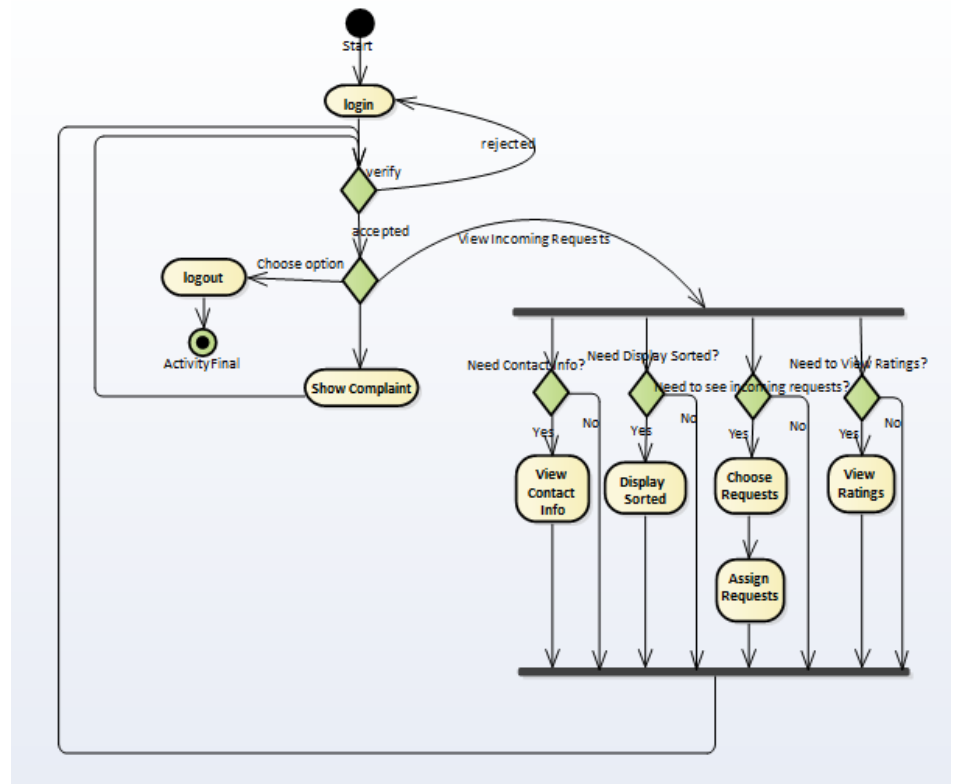5. **End use case.**

Alternative flow:

None

c. **Non-Functional Requirements**
   1. The system shall be user-friendly for different sets of users, icons should have customizable size.
   2. The system shall be platform-independent, it should be available on multiple operating systems.
   3. The system should be flexible so that most of the aspects can be configured.
   4. The system shall be implemented using an object-oriented paradigm to ensure maintainability of the system for addition of features in future iterations.
   5. The system's architecture shall avoid coupling to enhance the performance speed of the system.
   6. The system shall be reliable so that the user can trust the system to match their expectations when executing operations.
   7. The system shall be available at most times and scheduling for maintenance should be during low-traffic periods.
   8. The system shall recover from errors and crashes seamlessly.
   9. The system shall be secure to use by protecting users' personal information.
   10. The system shall be visible so that users can reach important functionalities easily.
   11. The system shall provide a set of shapes and colors that is clear for users with vision issues.
   12. The system's interface shall provide a text equivalent for every non-textual element.
   13. The system shall be interoperable so that the KFUPM login system can be used for it.
   14. The system's data shall have a high level of integrity to ensure the system's stability over a long period of time.
   15. The system shall be manageable to ensure maintenance department support.

d. **Activity Diagrams**
   We created 3 high-level activity, one for each actor, diagrams in order to display the whole process of the program. The activity diagram for the user would be submitted as EAP file since it is so big that no sufficient method is available to import it as a picture.

   1. User:
      [Check the submitted EAP file]
   2. Administrator:

Start
login
verify
rejected
accepted
Choose option
logout
Activity Final
Show Complaint
View Incoming Requests
Need Contact Info?
Need Display Sorted?
Need to see incoming requests?
Need to View Ratings?
Yes   No   Yes   No   Yes   No   Yes   No
View Contact Info
Display Sorted
Choose Requests
View Ratings
Assign Requests

3. Serviceman:

Serviceman | Admin | User

Start
Login
Verify credintials
Rejected
Accepted
Choose option
Prompt re-enter credintials
Logout
AlternateFlowFinal
View assigned requests
No
Select a request
Confirm handling?
Yes
Recieve notification
Handling outcome?
Successed
Failed
Report success
Report failure
Update system
FlowFinal