

2017

FDC Management Suite



Group Members

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Date: 20 October, 2017

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Business Requirements

***FDC Management Suite** is a major project for the management team to assist them and help them out in their job task. Employee of FDC will be able to mark the attendance using the fingerprint sensor. Employee cannot be able to mark the attendance by tempering the time. Employees can also view and print the daily attendance report, weekly attendance report and monthly attendance report. On the other hand many rights are assigned to administrator. Administrator can have account and allow to add new employees, view, update and delete the employee record. Administrator can also mark the attendance of employee manually and check the percentage, salary based on attendance.*

This project will be basically a useful management tool to assure the presence of employees at their position. It will also help administrator to calculate the salary based on presence. It will also help the administrator to calculate the salary based on monthly attendance percentage.

User Requirements

Furqan diagnostic center suite is a business application to assist the management team of the center to provide them with good environment to manage their employees and patients for a good working environment. This application will be used to provide the services to management team of FDC such as Biometric attendance and patient inventory system. FDC management suite thereby will support receptionist, manager, employees and owner in their task in some manners.

All the user requirements are as follow:

- The employee will open the system for attendance.
- An employee will start up the program for attendance.
- It will be the menu driven module employee will select option for attendance.
- By clicking on biometric attendance, select option mark attendance.
- By clicking the mark attendance option, employee will be able to mark the attendance.
- System will allow to capture the fingerprint for marking the attendance.
- Fingerprints already stored in system.
- Attendance will be marked by comparing entered fingerprints with stored fingerprint.
- If entered fingerprint is verified show message for attendance marked successfully.
- If entered fingerprint is not verified allow user to try again 2 more times.
- After three consecutive failures, system will prompt.
- After three consecutive failures, message will be displayed "Contact administrator for getting registered in database and for manual attendance."
- Attendance will be taken two times a day.
- In first shift from 8:00 to 3:00, employee will not be able to mark the attendance before 8:00 am.
- In first shift 8:00 to 3:00, employee will not be able to enter the daily full attendance after 8:30 am.

- In case of half leave, employee must contact the administrator for permission and then mark the presence.
- In first shift 3:00 to 9:00, employee will not be able to mark the attendance before 3:00 am.
- In second shift from 3:00 to 9:00, employee will not be able to enter the daily full attendance after 3:30 pm.
- In case of injury on right thumb, employee will be able to mark the attendance using left thumb.
- In case of injuries on both thumbs, employee will contact administrator for the attendance marking.
- System will allow employee to leave after the fingerprint capture.
- In first shift employee will be able to exit after 3:00 pm by capturing the fingerprint.
- If an employee does not capture his /her fingerprint at the time of leaving then his attendance will not be marked.
- Before 3:00 system will not allow to capture fingerprint for exit.
- In the second shift employee will be able to exit after 9:00 pm by capturing the fingerprint.
- If an employee does not capture his /her fingerprint at the time of leaving then his attendance will not be marked.
- Administrator will log in the system.
- System will ask username and password from administrator.
- Administrator will be able to see the departmental record of attendance.
- Administrator will be able to see the weekly and monthly attendance report.
- To assist the admin salary will be calculated on the basis of attendance marked.
- After 9:30 pm the daily attendance report, of both shifts, will be generated.
- This report will contain details of both shifts of attendance.
- Monthly and weekly reports will also be sent to administrator via email.
- The report will be sent to the administrator of daily attendance at the end of the day.
- Half leave will be marked by the administrator only.

- Administrator will be able to add number of extra hours of work and amount per hour for adding bonuses in employee salary.

Functional requirements

All Functions Requirements are as follow

FR	Description
FR01	Startup program
FR02	Administrator log in
FR03	Administrator operations
FR04	Add new record of employ
FR05	View the existing record
FR06	Update the existing record
FR07	Delete the record
FR08	Employee biometric Attendance
FR09	Report Generation
FR10	Help or guidelines

FR01 Startup

FR01-01	System shall allow user to open the desktop software.
FR01-02	System shall display a three option menu.
FR01-03	System shall allow user to proceed as Administrator by clicking the first option.
FR01-04	System shall allow user to proceed as Employee by clicking the second option.
FR01-05	System shall allow user to view guidelines to use software by clicking the third option.
FR01-06	System shall display an exit button.
FR01-07	System shall allow user to exit by clicking the exit button.
FR01-08	System shall terminate the software by clicking on exit button.

FR02 Administrator login

FR02-01	System shall display administrator login by clicking option one.
FR02-02	System shall allow administrator to login.
FR02-03	System shall get username from administrator.
FR02-04	System shall get password from administrator.
FR02-05	System shall authenticate administrator when he/she submits username and password on login button.

FR02-06	System shall allow administrator to reset his/her password.
FR02-07	System shall allow administrator to remember his/her username only by entering into the checkbox.
FR02-08	System shall allow administrator to view previous screen by clicking back button.
FR02-09	System shall allow four times to enter the password.
FR02-10	System shall send an email to administrator after four consecutive failures.
FR02-11	System shall allow access to software after log in.
FR02-12	System shall display a message of success login.
FR02-13	System shall display menu of four operations to administrator.
FR03-14	System shall allow administrator to exit the desktop app by clicking the exit button.
FR03-15	System shall display a message to confirm the exit option.
FR03-16	System shall exit the desktop app after confirmation of exit button.

FR03 Administrator operations

FR03-01	System shall display four operations (Add, View, Update and Delete) to administrator.
FR03-02	System shall allow administrator to add new record of employee in database by clicking the first option.
FR03-03	System shall allow administrator to view record of employee stored in database by clicking the second option.
FR03-04	System shall allow administrator to update record of employee in database by clicking the third option.
FR03-05	System shall allow administrator to delete record of employee stored in database by clicking the fourth option.
FR03-06	System shall allow to view previous screen by clicking the back button.
FR03-07	System shall allow administrator to select any one option.
FR03-08	System shall display breadcrumbs on upper right corner of screen.
FR03-09	System shall allow administrator to view next screen by selecting an option.
FR03-10	System shall allow administrator to exit the desktop app by clicking the exit button.
FR03-11	System shall display a message to confirm the exit option.
FR03-12	System shall exit the desktop app after confirmation of exit button.
FR03-13	System shall allow to display next screen according to the option selection.

FR04 Add record of Employee

FR04-01	System shall allow administrator to select the first option for adding record.
FR04-02	System shall display the three sections (Main, Details, and Salary) to add new record.

FR04-03	System shall allow to select main section.
FR04-04	System shall display the form of main section.
FR04-05	System shall allow administrator the form of main section.
FR04-06	System shall get first name of employee from administrator.
FR04-07	System shall get middle name of employee from administrator.
FR04-08	System shall get family name of employee from administrator.
FR04-09	System shall get employee Id from administrator.
FR04-10	System shall get the permanent address of employee from administrator.
FR04-11	System shall get temporary address of employee from administrator.
FR04-12	System shall get the name of city and country of employee from administrator.
FR04-13	System shall get email Id of employee from administrator.
FR04-14	System shall get personal mobile number of employee from administrator.
FR04-15	System shall get emergency mobile number of employee from administrator.
FR04-16	System shall get the job title of employee from administrator.
FR04-17	System shall get gender of employee from administrator.
FR04-18	System shall allow administrator to save information by entering the next button.
FR04-19	System shall display message to indicate empty fields.
FR04-20	System shall allow to fill the indicated empty fields.
FR04-21	System shall allow to click again the next button to save information.
FR04-22	System shall allow to move to detail section after filling main section form.
FR04-23	System shall allow administrator to fill detail section.
FR04-24	System shall get job title of employee from administrator.
FR04-25	System shall get the department of employee from administrator.
FR04-26	System shall get the comments (optional) of job responsibility of employee from administrator.
FR04-27	System shall allow to save information by clicking the next button.
FR04-28	System shall indicate the empty fields of detail section.
FR04-29	System shall allow again to enter the next button.
FR04-30	System shall allow administrator to move third section of salary.
FR04-31	System shall allow to get amount of overwork per hour.
FR04-32	System shall allow to select option of any allowance for employee.
FR04-33	System shall get the pay per hour from administrator.
FR04-34	System shall display the monthly salary.
FR04-35	System shall get total salary manually (Optional) from administrator.
FR04-36	System shall save all information to database by entering save button.
FR04-37	System shall display message of saved successfully by entering the save button.
FR04-38	System shall display error message in case of empty fields.
FR04-39	System shall validate the entered information by checking name should not contain numbers.
FR04-40	System shall allow to get back at menu of administrator operations by entering the back button.

FR04-41	System shall allow to exit the desktop app by entering the exit button.
FR04-42	System shall allow to show screen of administrative operations by entering back button.

FR05 View Employee Record

FR05-01	System shall allow administrator to view record of existing employees by entering the second option of administrator operations.
FR05-02	System shall allow the administrator to view main section of record of employees.
FR05-03	System shall allow the administrator to view main section of record of employees.
FR05-04	System shall allow the administrator to view salary section of record of employees.
FR05-05	System shall allow the administrator to view current attendance percentage of employee.
FR05-06	System shall allow the administrator to view current calculated salary of employee based on current attendance percentage.
FR05-07	System shall allow to go back to administrator operations page by entering the back button.
FR05-08	System shall allow to exit the desktop app by entering the exit button.
FR05-09	System shall allow to select any option from administrator operations menu.

FR06 Update Employee Record

FR06-01	System shall allow administrator to update the record of employees by selecting the update employee record from administrator operations menu.
FR06-02	System shall display the list of all employee and search box to search the employee from list.
FR06-03	System shall allow the administrator to search the record of employee through employee ID.
FR06-04	System shall allow the administrator to search the employees through their name.
FR06-05	System shall allow the administrator to view all information of employee.
FR06-06	System shall display an additional box for marking the attendance of half day by entering number of hour's presence in clinic.
FR06-07	System shall capture the date and time of PC to save in database with number of hour's presence of employee.
FR06-08	System shall add these number of hours in attendance percentage that is used for salary calculation.
FR06-09	System shall allow to update the main section information by clicking on the desired field.

FR06-10	System shall allow to update the detail section information by clicking on the desired field.
FR06-11	System shall allow to update the salary section information by clicking on the desired field.
FR06-12	System shall allow to get back at menu of administrator operations by entering the back button.
FR06-13	System shall allow to exit the desktop app by entering the exit button.
FR06-14	System shall allow to show screen of administrative operations by entering back button.

FR07 Delete employee record

FR07-01	System shall allow administrator to delete the record of employees by selecting the delete employee record from administrator operations menu.
FR07-02	System shall display the list of all employee and search box to search the employee from list.
FR07-03	System shall allow the administrator to search the record of employee through employee ID.
FR07-04	System shall allow the administrator to search the employees through their name.
FR07-05	System shall allow the administrator to select the record of employee for deletion.
FR07-06	System shall display a button for the deletion of selected record by clicking on delete button.
FR07-07	System shall display a message for the confirmation of deletion by clicking the ok button.
FR07-08	System shall the message record deleted successfully from database.
FR07-09	System shall allow to get back at menu of administrator operations by entering the back button.
FR07-10	System shall allow to exit the desktop app by entering the exit button.
FR07-11	System shall allow to show screen of administrative operations by entering back button.

FR08 Employee Biometric Attendance

FR08-01	System shall display Employee Attendance.
FR08-02	System shall allow employee to mark the attendance by clicking second option.
FR08-03	System shall display the blocks of each employees with image, name and attendance percentage.
FR08-04	System shall display the first shift attendance from 8:00 am to 3:00 pm.
FR08-05	System shall display the second shift attendance from 3:00 am to 9:00 pm.
FR08-06	System shall display a button with title Mark attendance.

FR08-07	System shall allow the employee to capture his/her right thumb fingerprint for the presence.
FR08-08	System shall allow employee to capture his/her left thumb in case of injury on right thumb.
FR08-09	System shall allow employees of first shift to mark their daily full attendance from 8:00am to 8:30 am.
FR08-10	System shall allow employees of second shift to mark their daily full attendance from 3:00pm to 3:30pm.
FR08-11	System shall start deducting pay per hour if attendance is marked after 3:30 pm in second shift.
FR08-12	System shall not allow any employee to change the system date and time for marking their full time attendance.
FR08-13	System shall save these details in database for calculating the attendance percentage and salary of employees.
FR08-14	System shall compare entered fingerprint to stored fingerprint for marking attendance.
FR08-15	System shall display message of success if fingerprint is matched.
FR08-16	System shall display the message of failure if fingerprint is not matched.
FR08-17	System shall allow employee to try again for two more times.
FR08-18	System shall send an email to administrator if more than three failures captured.
FR08-19	System shall send the email to administrator with time and date.
FR08-20	System shall display the message to contact the administrator for marking employee's attendance.
FR08-21	System shall allow employee to mark the attendance at the time of leaving.
FR08-22	System shall display the exit attendance at 3:00 pm for the first shift.
FR08-23	System shall allow the employee to mark exit attendance otherwise absent will be marked for that day.
FR08-24	System shall mark the whole day present of the employee who captured his/his fingerprint at the start time and exit time.
FR08-25	System shall display the exit attendance at 9:00 pm for the second shift.
FR08-26	System shall allow the employee to mark exit attendance otherwise absent will be marked for that day.
FR08-27	System shall mark the whole day present of the employee who captured his/his fingerprint at the start time and exit time.
FR08-28	System shall display a permanent message at the right below corner, contact administrator for extra hours of work.

FR09 Report Generation

FR09-01	System shall compile a daily attendance report at 10:00 pm.
FR09-02	System shall provide the list of present employee and list of absent employee in the record.

FR09-03	System shall provide the time of attendance marked by employees in the report.
FR09-04	System shall send the report to administrator via email.
FR09-05	System shall compile a weekly report of attendance.
FR09-06	System shall provide the percentage of presence of employee till that current week in the weekly attendance report.
FR09-07	System shall send weekly attendance report at every Saturday at 10:00pm.
FR09-08	System shall send the email to administrator with time and date.
FR09-09	System shall compile a monthly report of attendance.
FR09-10	System shall provide the percentage of presence of employee of one month in the monthly attendance report.
FR09-11	System shall send monthly attendance report at very end day of month at 10:00pm.
FR09-12	System shall send the email to administrator with time and date.

FR10 guidelines

FR10-01	System shall display three options (Proceed as employee, Administrator and Help) on first screen.
FR10-02	System shall allow the employee and administrator to click the button of help.
FR10-03	System shall display a guidelines to use the desktop application.
FR10-04	System shall allow to go back by clicking the button of back.
FR10-05	System shall allow to exit by clicking the exit button.
FR10-06	System shall again view options of first screen by clicking the back buton.

Non-Functional Requirements

NFR01 Performance

NFR01-01	The Average load time of the starting page of the system must be less than 5 seconds.
NFR01-02	Average load time of the fingerprint comparison will be less than 10 seconds.
NFR01-03	Average time of loading the record of employee should not be greater than 5 seconds.
NFR01-04	Average system response time should not be greater than 5 seconds.
NFR01-05	System must successfully run on a client machine with 256 MB RAM or above.
NFR01-06	Biometric attendance will be available on one PC.
NFR01-07	System must successfully send the reports over internet to the admin.
NFR01-08	Log in time of admin account must be less than 6 seconds.
NFR01-09	In case of data retrieving and deletion response time should not be greater than 8 seconds.

NFR02 Security

NFR02-01	System must provide access to admin only that enter through the login module.
NFR02-02	System must not provide access to user the designated user and administrator to update the database.
NFR02-03	A user is not allowed to see any other user data except administrator.
NFR02-04	After the end of a user Session, all information will be stored on server.
NFR02-05	All access to the system shall be provided to administrator only.

NFR02-06	A proper mechanism shall be adopted in order to avoid any damage (Physically).
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NFR03 Availability

NFR03-01	This desktop application shall be open from 8:00 am to 11:59 pm day.
NFR03-02	User may access it from two or three end systems within the organization.

Actors & Use Cases

Actors

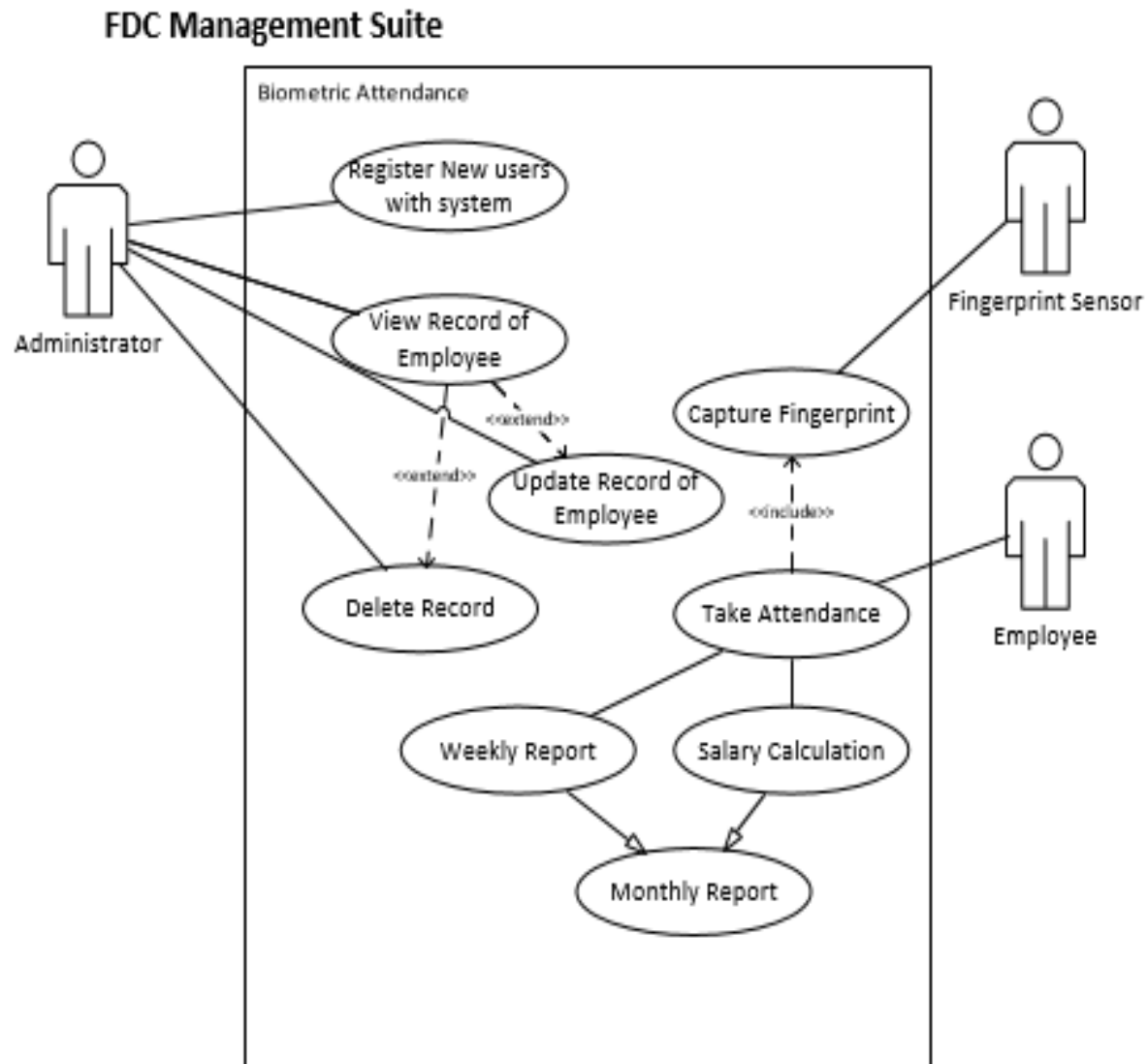
- Administrator
- Employee
- Biometric Sensor
- Management
- Owner
- Cash officer (for calculating salary)
- Receptionist (Get free from marking attendance)

Use Cases

- Register new user with system
- View record of employee
- Update record of employee
- Delete record of employee
- Take attendance
- Weekly report
- Salary calculation
- Monthly report
- Capture Fingerprint

Use Case Diagram (UML)

Use case UML diagram of biometric attendance is as follow:



Descriptive Use Cases

Use case no: 1

Use case Title: Administrator Login

Primary Actor: Administrator

Level: User Goal

Stakeholders: Administrators, Management, Owner, Employees

Pre-condition:

1. Software must be installed on system.
2. Appropriate users must be assigned administrator privileges for the system
3. Administrator must know their log-in details for the system

Trigger: Administrator will be authenticated and logged in to the system in order to perform sophisticated managerial operations.

Minimal Guarantee/ Post-condition:

If administrator cannot log in or provides incorrect details, the software will prompt to reset password or contact developer.

Success guarantee/ post condition:

1. Administrator fills up the login form with the correct credentials
2. Administrator clicks the login button
3. The system authenticates the administrator
4. The administrator is logged into the system
5. A screen opens that allows the administrator to choose an operation to perform
6. The administrator selects the appropriate operation to perform

Extensions:

- **Alternate flow of events**
 1. Administrator logs in to the system but exits without performing an operation
 2. User is about to fill the login form but cancels it.
- **Exceptions**
 1. Incorrect information is given
 2. The user trying to log in does not have administrator privileges for the system

3. The user trying to log in is not registered with the system

Use case no: 2

Use case Title: Register new users with the system

Primary Actor: Administrator

Level: User Goal

Stakeholders: Administrator, doctors, employees

Pre-condition:

Administrator must be authenticated and logged in to the system

Trigger: Administrator will be able to perform operations to add new users with the system.

Minimal Guarantee/ Post-condition:

If new users cannot be added in the system, a prompt will be issued asking administrator to try again or contact developer to check that the system is working correctly.

Success guarantee/ post condition:

Administrator takes details of new employee and fill in the add form accordingly

Administrator asks employee to place finger on biometric device

Administrator waits for the system to complete biometric scan

Administrator asks employee to repeat the procedure for confirmation of identity

System matches scans and accepts new entry

Administrator clicks save button to save the new employee in the database

Extensions:

- **Alternate flow of events**

3. Administrator logs in to the system but exits without performing an operation
4. There is a mismatch in the biometric scan of employee

- **Exceptions**

4. Administrator fills employee details but doesn't save
5. Administrator fills employee details without biometric details for temporary purposes.

Use case no: 3

Use case Title: View attendance:

Primary Actor: Administrator

Level: User Goal

Stakeholders: Administrators, Employees

Pre-condition:

4. Software must be installed and running properly
5. Administrator must be logged in to the system

Trigger: Administrator will be authenticated and logged in to the system and will be able to view employee attendance details

Minimal Guarantee/ Post-condition:

Attendance details will be visible to only those who have privileges to access the system as administrator

Success guarantee/ post condition:

7. Administrator selects the option to view employee attendance
8. The system queries the database
9. The system displays employee attendance in tabular form on the screen

Extensions:

- **Alternate flow of events**
 5. The request to view attendance is not processed
 6. Administrator exits the program before the attendance report is displayed on the screen
- **Exceptions**
 6. No employee is added to the system

Use case no: 4

Use case Title: Update employee records

Primary Actor: Administrator, employees

Level: User Goal

Stakeholders: Administrators, Management, Owner, Employees

Pre-condition:

6. Software must be installed on system.
7. Administrator must be logged in to the system

Trigger: Administrator will be able to make changes to existing employee details and their biometric record

Minimal Guarantee/ Post-condition:

Only authorized user will be able to alter employee records

Success guarantee/ post condition:

10. Administrator clicks on option to edit employee records
11. System generates a list of employees and their existing details
12. Administrator selects the employee to alter
13. Administrator makes changes to existing values
14. Administrator clicks the update button
15. The system saves the changes

Extensions:

- **Alternate flow of events**

7. Administrator logs in to the system but exits without performing updating records
8. Administrator changes values but does not save

- **Exceptions**

7. Conflicting information is given
8. Update operation is not successful

Use case no: 5

Use case Title: Delete employee records

Primary Actor: Administrator

Level: User Goal

Stakeholders: Administrators, Management, Owner, Employees

Pre-condition:

8. Software must be installed on system.
9. Administrator must be authenticated and logged in to the system

Trigger: Administrator will be authenticated and logged in to the system and can delete employees from the database

Minimal Guarantee/ Post-condition:

Only authorized user will be able to delete employees

Success guarantee/ post condition:

16. Administrator selects the operation to delete employee record
17. Admin selects the employee to be deleted
18. System asks for confirmation of operation
19. System deletes the employee from database and saves the changes

Extensions:

- **Alternate flow of events**
 9. Administrator logs in to the system but exits without deleting any employees
 10. Admin deletes employee but does not confirm the operation
- **Exceptions**
 9. The employee selected has higher privileges than the administrator
 10. The delete operation is not successful

Use case no: 6

Use case Title: Calculate Salary based on attendance

Primary Actor: Administrator

Level: User Goal

Stakeholders: Administrators, Management, Owner, Employees

Pre-condition:

10. Administrator should be logged in to the system

Trigger: Administrator will be authenticated and logged in to the system and allowed to calculate salary by attendance

Minimal Guarantee/ Post-condition:

Accurate salary of all employees will be calculated

Success guarantee/ post condition:

20. Administrator instructs system to generate attendance and salary summary of all employees

21. System calculates salary based on attendance

22. System generates summary and outputs on screen

Extensions:

- **Alternate flow of events**

11. Administrator logs in to the system but does not view salary

12. Salary summary is not calculated for employees less than a week old

- **Exceptions**

11. Salary summaries are not generated by the system

12. The administrator has made changes to employee records and hence the summary cannot be compiled

Use case no: 7

Use case Title: Take attendance

Primary Actor: Employee, biometric fingerprint sensor

Level: User Goal

Stakeholders: Administrators, Management, Owner, Employees

Pre-condition:

- 11. Employee should be allowed to mark attendance
- 12. Fingerprint sensor must be attach to the system.

Trigger: Employee can access the PC and allowed to mark attendance using fingerprint sensor.

Minimal Guarantee/ Post-condition:

Attendance will be marked for each employee on the basis of fingerprint matched.

Success guarantee/ post condition:

- 23. Employee will be able to access the option Proceed as employee
- 24. Employee marked attendance by scanning the right thumb.
- 25. System compares the entered fingerprint stored to mark attendance
- 26. This daily attendance will used to calculate the monthly attendance percentage.

Extensions:

- **Alternate flow of events**
 - 13. Employee selected option proceed as employee in to the system but does not mark attendance.
 - 14. Employee selected option of administrator but don't know the password
- **Exceptions**
 - 13. Fingerprint sensor does not scan properly.
 - 14. The software is not able to pick fingerprint from device.

Use case no: 8

Use case Title: Capture fingerprint

Primary Actor: Employee, biometric fingerprint sensor

Level: User Goal

Stakeholders: Administrators, Management, Owner, Employees

Pre-condition:

13. Employee's right thumb or left thumb must be used to mark attendance.
14. Fingerprint sensor must be attach to the system.
15. Software should be open.

Trigger: Employee can access the PC and allowed to mark attendance using fingerprint sensor for capturing the fingerprint.

Minimal Guarantee/ Post-condition:

Attendance will be marked for each employee on the basis of fingerprint matched.

Success guarantee/ post condition:

27. Employee will be able to access the option Proceed as employee.
28. The fingerprint sensor used to take fingerprint of the employee for attendance calculation.
29. Employee marked attendance by scanning the right thumb.
30. System compares the entered fingerprint stored to mark attendance
31. This daily attendance will used to calculate the monthly attendance percentage.

Extensions:

- **Alternate flow of events**
 15. Employee selected option proceed as employee in to the system but does not mark attendance.
 16. Employee selected option of administrator but don't know the password
- **Exceptions**
 15. Fingerprint sensor does not scan properly.

16. The software is not able to pick fingerprint from device.
17. Damaged cables through which fingerprint sensor is attached to sensor.

Use case no: 9

Use case Title: Weekly Attendance Report

Primary Actor: Employee, Administrator

Level: User Goal

Stakeholders: Administrators, Management, Owner, Employees

Pre-condition:

16. Week of which weekly attendance report will be generated must be a working week.
17. Printer must be attached to system to generate the report.
18. Software should be open.

Trigger: Employee and administrator can access the PC for weekly report view and print.

Minimal Guarantee/ Post-condition:

Report will be generated on the basis of weekly attendance history.

Success guarantee/ post condition:

32. Employee can access the report for viewing.
33. Employee can also print the weekly attendance report.
34. On the other hand Weekly attendance can also be viewed by Administrator and can also be printable.
35. Weekly attendance report will show and assess most absentees and presence.
36. This weekly attendance will used to calculate the monthly attendance percentage.

Extensions:

- **Alternate flow of events**
 17. Employee selected option proceed as employee in to the system but does show weekly attendance report to them.
 18. Employee selected option of print but canceled it.
- **Exceptions**
 18. Suddenly electric dis-connectivity.

19. The software does not pass the command of print to the printer.
20. Printer cartridge ended.
21. Not enough pages to print the report.

Use case no: 10

Use case Title: Monthly Report Generation

Primary Actor: Employee, administrator, biometric fingerprint sensor

Level: User Goal

Stakeholders: Administrators, Management, Owner, Employees

Pre-condition:

19. Employee's right thumb or left thumb must be used to mark attendance.
20. Fingerprint sensor must be attach to the system.
21. Software should be open.
22. Printer must be connected.

Trigger: Employee and administrator can access the PC and allowed to view and print the monthly attendance report.

Minimal Guarantee/ Post-condition:

Attendance will be generated on the basis of weekly report and daily report

Success guarantee/ post condition:

37. Employee will be able to access the option Proceed as employee.
 38. The system allow to view the monthly report of attendance of employee.
 39. The system allow the employee to print the monthly attendance of report.
 40. System generates a detailed report contains: salary of employee, total presence percentage of employee etc.
 41. This monthly attendance will used to calculate the salary of employee.
- **Alternate flow of events**
 19. Employee selected option proceed as employee in to the system but does show weekly attendance report to them.
 20. Employee wants to viewed the monthly report but accidentally not reach there.

- 21. Employee selected option of print but canceled it.
- **Exceptions**
 - 22. Suddenly electric dis-connectivity.
 - 23. The software does not pass the command of print to the printer.
 - 24. Printer cartridge ended.
 - 25. Not enough pages to print the report.

References

- Template downloaded from internet of IDA for this document
- All lecture material provided by Sir Ahmad Mohsin
- Books followed is Software engineering by Roger S. Pressman
- From all over the internet