

DOOR ACCESS SYSTEM VIA FINGERPRINT WITH GSM

Faculty of Computer Systems & Software Engineering (FSKKP)

Software Requirement Specification (SRS)

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1.0 FUNCTIONS

The table below describe the functions of Door Access System via Fingerprint with GSM.

Table 1.1 Functions in ReSMART

Functions	Description
Login (AFIFAH)	In order to enter the first page that is registering the user to the PIC, the manager needs to log in to the system first. This is because we want to make sure that he/she is one of the authorized person. In this page, manager need to enter the password in the text box provided. If a manager forgot his password, he can simply press on the 'Forgot Password' link and steps of retrieving back the manager password will be visible.
Establish Connection	The manager needs to choose the connection between the system the external component via available COM Port first.
Add User (NANA)	In Add User function, the manager will fill up all the particulars of the staff that is authenticated to access to any area. The manager will fill up the staff ID, staff short name, staff full name, allowed access area, and registered manager phone number. All this fields need to be filled up or else an error message will pop-up. For staff short name and full name, maximum characters of 16 and 50 are respectively applicable. However, for the phone number, only integer-type characters are allowed to be used.
Search Existing User (LIA)	For the Search Existing User function, the manager can find for any staff name that he wants. He can either choose to search the existing user by user ID or by any phrase in the user full name. This function is basically to ease the Delete Existing User and Update Existing User Details functions.

Update Existing User Details (LIA)	In Update Existing User Details function, can amend any data of the staff. The manager will first choose the staff that he wants to update. It can be aided by using the Search Existing User function. Later, the manager needs to fill up the new data in the related fields. Once again, all of this fields need to be filled up or else an error message will pop-up. The character length and field type are also applicable for the fields as in the Add User function.
Delete User (BEL)	In the delete user function, the manager need to choose any of the staff that he wants to delete and he will press on the delete user button. A confirmation message will pop-up asking if the manager really wants to delete the user. If the manager clicks on 'No' button, the process will be cancelled. However, if he clicks on 'Yes', it will delete the user details from the database and will also delete the fingerprint details in the PIC. To make the delete function better and easier, manager can use the Search Existing User function to look for the desired staff.
Delete All User	For this function, if the manager wants to delete all user, he will first press on the 'Delete All User' button. A confirmation message will pop-up asking if the manager really wants to delete the user. If the manager clicks on 'No' button, the process will be cancelled. However, if he clicks on 'Yes', it will ask the manager to input the manager password. If the correct password is inputted, the system will delete all the user details of every user from the database and will also delete the fingerprint details in the PIC.
View Access Report	By using this function, the manager can view the door access report. Manager can also filter the report by the date that he wants to view. The manager can also export all the report to Excel file.
Change Password (TEKU)	If the manager wants to change his password to a new one, he can press on the 'Change Password' link. To change his password, he first need to enter the old password and followed by the new password and the confirmation of the new password. The system will then update his password in the database.

2.0 DATA FLOW DIAGRAM (DFD) LEVEL-0

The figure below shows the Level-0 Data Flow Diagram (DFD) in Door Access System via Fingerprint with GSM (ReSMART).

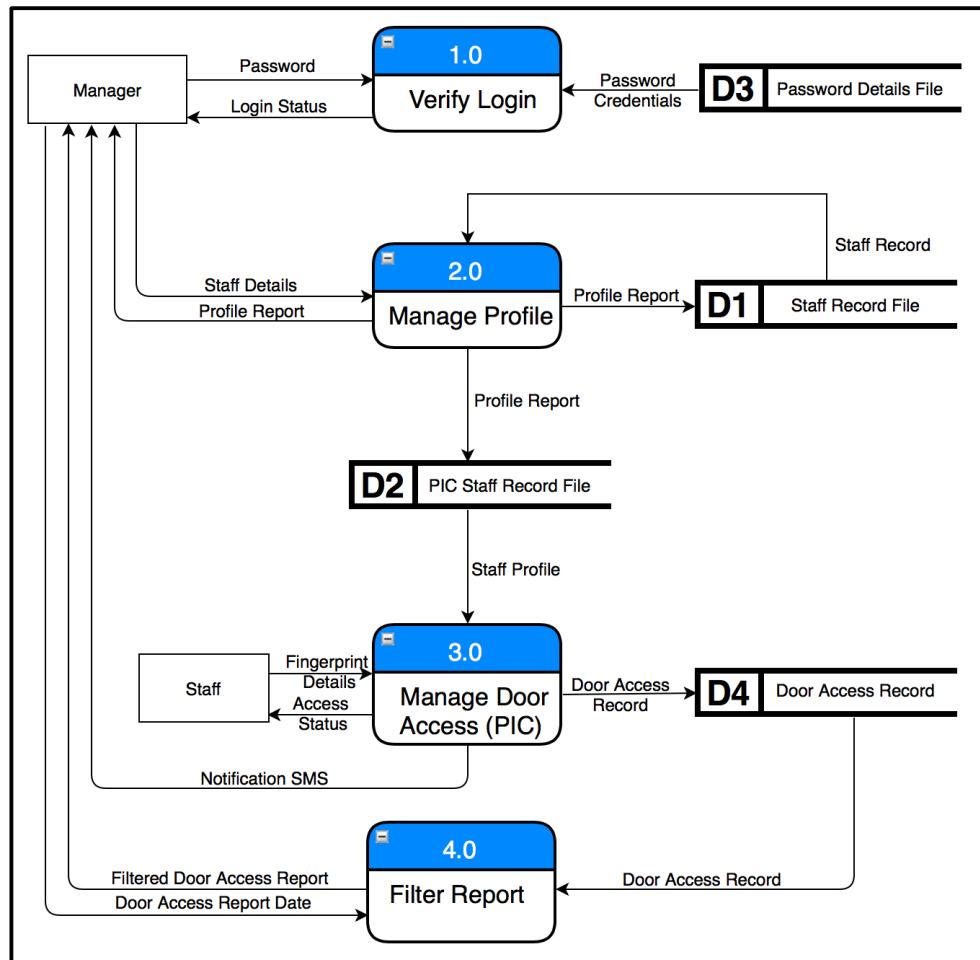


Figure 2.1 DFD Level-0 in ReSMART

3.0 DATA FLOW DIAGRAM (DFD) LEVEL 1, LEVEL 2

In this section, the Data Flow Diagram (DFD) of Level 1 and Level 2 will be shown. The DFD of the level is basically decomposed from the previous level DFD.

3.1 DATA FLOW DIAGRAM (DFD) LEVEL 1

This subtopic will provide the Level 1 DFD of ReSMART. This DFD is decomposed from the previous DFD that is Level 0 DFD.

3.1.1 Manage Profile (2.0)

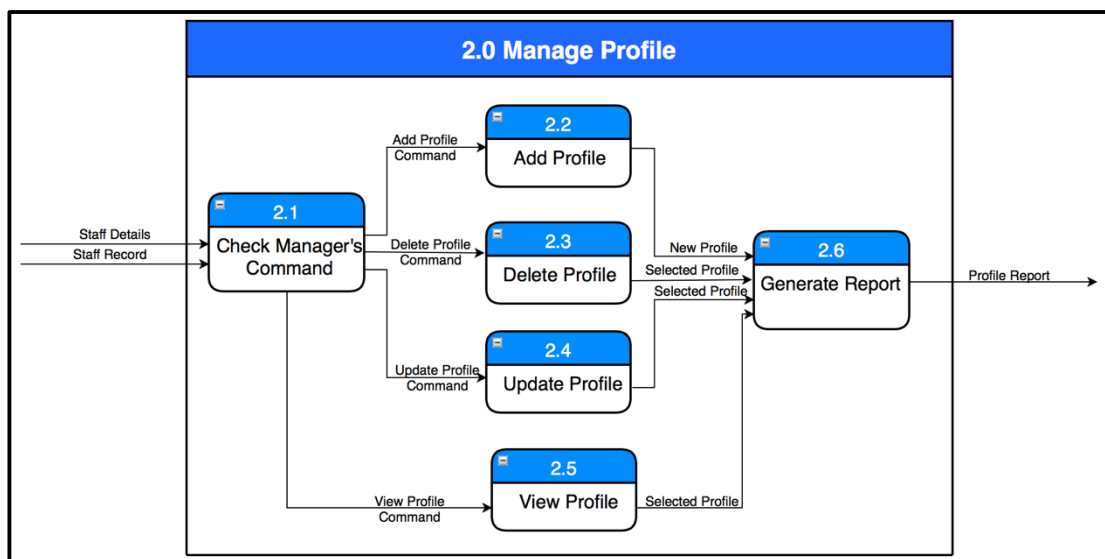


Figure 3.1 DFD Level 1 for Manage Profile

3.1.2 Manage Door Access (3.0)

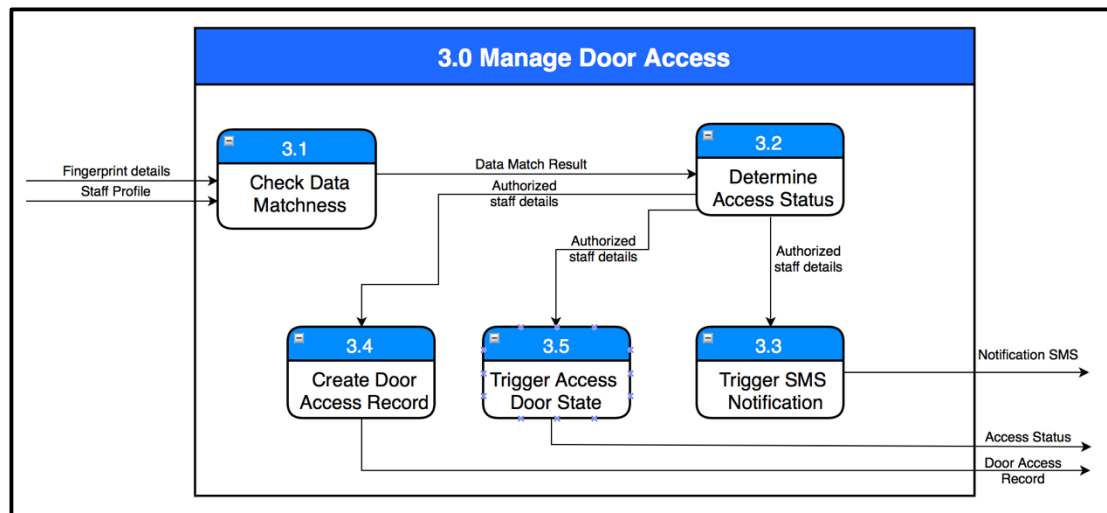


Figure 3.2 DFD Level 1 for Manage Door Access

3.2 DATA FLOW DIAGRAM (DFD) LEVEL 2

This subtopic will provide the Level 2 DFD of ReSMART. This DFD is decomposed from the previous DFD that is Level 1 DFD.

3.2.1 Add Profile (2.2)

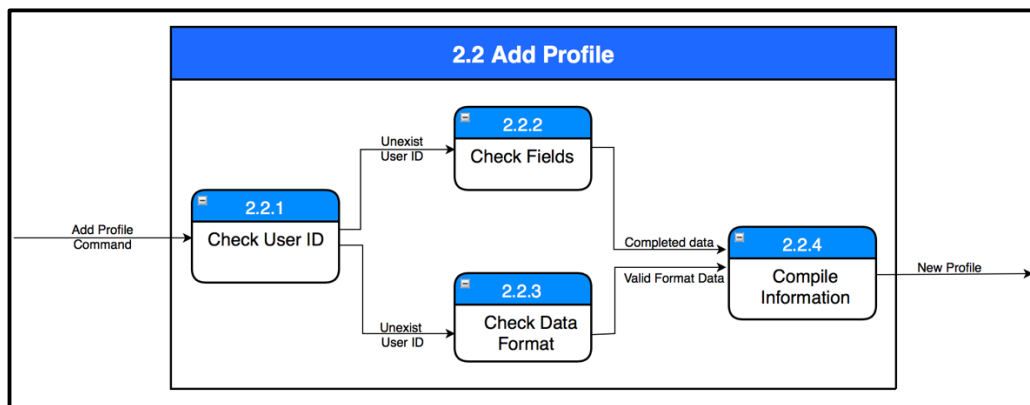


Figure 3.3 DFD Level 2 for Add Profile

3.2.2 Delete Profile (2.3)

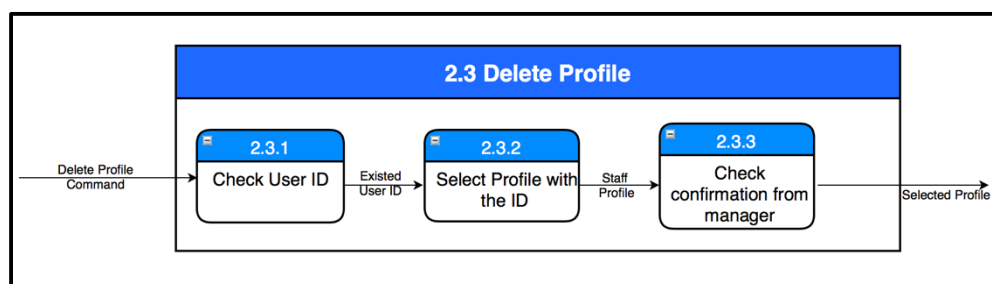


Figure 3.4 DFD Level 2 for Delete Profile

3.2.2 Delete Profile (2.4)

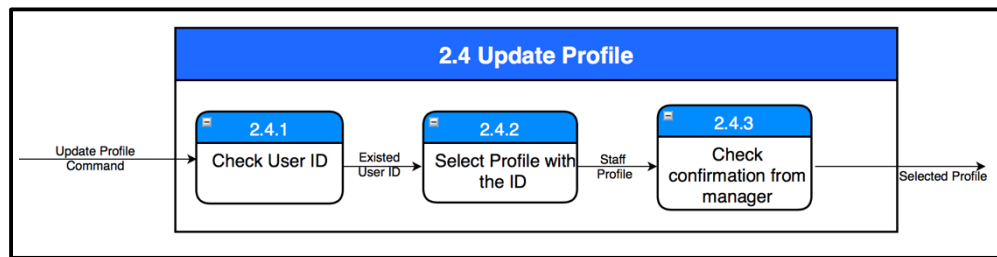


Figure 3.5 DFD Level 2 for Update Profile

3.2.2 View Profile (2.5)

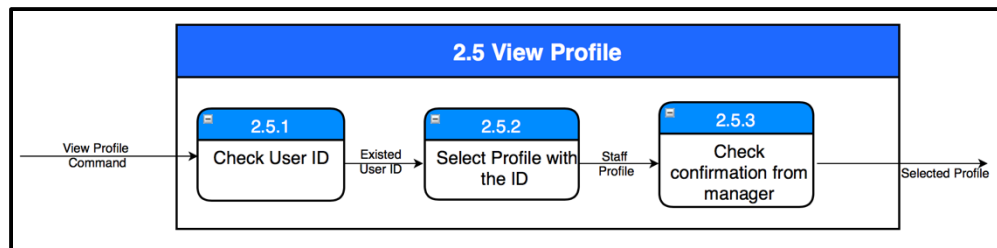


Figure 3.6 DFD Level 2 for Update Profile

4.0 STRUCTURED ENGLISH

In this section, structured English will be used in order to describe the flow of the exist function in Door Access System via Fingerprint with GSM (ReSMART).

4.1 Verify Login

1. System display login screen.
2. Manager input password into password text box.
3. System check with database (tblLogin)
4. If the password is correctly matched,

System will allow manager to enter the system.

Otherwise,

System will display message box with message “Incorrect Password!”

5. End.

4.2 Establish Connection

1. System display connection screen.
2. Manager choose connection port from the combo box.
3. Manager click on button ‘Connect Now’.
4. System will attempt connection.
5. If connection is successful,

System display main screen.

Text of button ‘Connect Now’ will change to ‘Disconnect’

Combo box connection port will be disabled.

Otherwise,

System will display message box with message ‘Connect failed. Try another COM port’.

6. End

4.3 Add User

1. System display main screen.
2. Manager fill up all the details in textbox provided (Staff ID, Staff Short Name, Staff Full Name, Door ID, Manager's Phone Number).
3. Manager click 'Add Profile' button.
4. If all the fields have been filled up,
 - If all data in the field are valid,
 - System ask the staff to input fingerprint.
 - System will keep the profile in database (tblStaff).
 - System will download the data in PIC.
 - Otherwise,
 - System display message box with message "Invalid Data!"
 - Otherwise,
 - System display message box with message "Please Fill Up All Data!"
5. End

4.4 Search Existing User

1. System display main screen.
2. Manager clicks on 'Search Existing User' Button.
3. Manager key in staff ID in the text box provided.
4. If the manager clicks on 'Search' button,
5. System will check the staff ID in the database (tblStaff).
6. If the staff ID match with any record,
 - System will display the staff info.
- Otherwise,
 - System will display message box with text "No Match Found!"
 - System display main screen.
7. End

4.5 Delete Existing User

1. System display main screen.
2. Manager choose staff from staff list view that is retrieved from tblStaff.
3. Manager clicks on 'Delete This Profile' Button.
4. System will display message box with message "You are about to delete one record. Are you sure?" with choice of 'Yes' and 'Cancel' buttons.
5. If the manager clicks on 'Yes' button,
 - System will delete one record from database (tblStaff)
 - System will delete one record in the PIC.
 - Otherwise,
 - System will display main screen.
6. End

4.6 Update Existing User

1. System display main screen.
2. Manager choose staff from staff list view that is retrieved from tblStaff.
3. Manager clicks on 'Update This Profile' Button.
4. Manager needs to enter new data in the field.
5. Manager clicks on button 'Update Now'.
6. System will display message box with message "You are about to update one record. Are you sure?" with choice of 'Yes' and 'Cancel' buttons.
7. If the manager clicks on 'Yes' button,
 - If all the fields have been filled up,
 - If all data in the field are valid,
 - System will update the profile in database (tblStaff).
 - System will update the data in PIC.
 - Otherwise,
 - System display message box with message "Invalid Data!"
 - Otherwise,
 - System display message box with message "Please Fill Up All Data!"
 - Otherwise,
 - System will display main screen.
8. End

4.7 Delete All User

1. System display main screen.
2. Manager clicks on 'Delete All User' Button.
3. System will display message box with message "You are about to delete all user. Are you sure?" with choice of 'Yes' and 'Cancel' buttons.
4. If the manager clicks on 'Yes' button,
 - System will display a message box with text box and message 'Please Enter Manager Password to delete all User'
 - If manager enter correct password,
 - System will delete all user record in database (tblStaff)
 - System will delete all user record in PIC.
 - Otherwise,
 - System will display message box with text "Wrong Password!"
- Otherwise,
 - System display main screen.
5. End

4.8 Display Filtered Door Access Report

1. System display report screen.
2. Manager choose date from date picker.
3. Manager click 'Display Now' button.
4. System retrieve the access record from the database according to the date chosen. (tblReport)
5. System display access report in the list view.

4.9 Change Password

1. System display report screen.
2. Manager clicks on 'Change Password' button.
3. System will display message box with three text boxes and the respective labels.
4. Manager insert old password in the 'Old Password' textbox.
5. Manager insert new password in 'New Password' textbox
6. Manager reinsert new password in 'Reinsert New Password' textbox.
7. Manager click on 'Change Password Now' button.
8. If the manager filled up all textboxes,
 - If manager enter matching new password,
 - System will display message 'Password Updated!'
 - System will update password in database (tblLogin)
 - System will display main screen.
 - Otherwise,
 - System will display message 'Password Not Matched!'.
 - Otherwise,
 - System will display message box with message 'Fill Up All Fields!'
9. End

5.0 SYSTEM DESIGN APPROVAL

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Verified by: <hr/> Developer	Muhamad Hafizuddin Afiq bin Anuar	10 May 2016
Approved by: <hr/> Client	Mr. Muhammad Idham Hilman bin Adenam	30 May 2016