User Manual

Furnicor Family System

Rayan de Bruin – 1015171
Arjan Belder – 0892102

Introduction

This user manual is meant for all the users of this application. The manual describes how every function works and how it should be used by the different users.

Chapter 1 discusses the login with password and username and what is important to note. The second chapter covers how the main menu works. Chapters 3 through 6 describe all the functionalities that exist within in this application.

The system administrator has all the options that an advisor has and more. Since various roles in this application will have the same functionalities as the preceding role, these functions will not be discussed again for that role.

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1   Login

When the user opens the application, they will be prompted to log in. The first prompt will ask the user to enter their username. The username is not case-sensitive e.g., *SUPERADMIN* is the same as *superadmin*.

After any username has been entered, the user will be asked to enter the corresponding password. Unlike the username, the password is case-sensitive, meaning *Admin321!* will not be the same as *ADMIN321!*.

When a wrong combination of username and password will be entered, an error message will be showed, to indicate that the combination was incorrect, as can be seen in figure 1-1. Either the password or username may be incorrect.

Figure 1-1 Incorrect login

After successfully logging in, the user will be welcomed and the corresponding options will be shown to the user, as can be seen in figure 1-2. For testing purposes, a hardcoded superadmin is added to the database with username: *superadmin* and password: *Admin321!*.

Figure 1-2 Successful login

2   Main menu

Once the user has logged in, they will see several options. Such as the options a superadmin may see as in figure 1-2. Underneath the options is a prompt, which asks the user to enter an option. The user may type the specified number to access the corresponding functionality. Alternatively, the user may type *exit*, to exit the application.

If the user enters incorrect input, such as any number that isn't specified, or any kind of text, an error message will be shown stating that the input was incorrect, and the options will be shown again. This can be seen in figure 2-1.

```
Enter your option: 17
Incorrect input. Please try again

Press 1 to update your password
Press 2 to add a new member
Press 3 to modify or update information of a member
Press 4 to search and retrieve information of a member
Press 5 to view the list of users and their roles
Press 6 to define and add a new advisor to the system
Press 7 to modify or update an existing advisor's account and profile
Press 8 to delete an existing advisor's account
Press 9 to reset an existing advisor's password (a temporary password)
Press 10 to make a backup of the system and restore a backup
Press 11 to view the log file(s) of the system
Press 12 to delete a member from the database
Press 13 to define and add a new administrator to the system
Press 14 to modify or update an existing administrator's account and profile
Press 15 to delete an existing administrator's account
Press 16 to reset an existing administrator's password (a temporary password)
Type 'exit' to exit

Enter your option:
```

Figure 2-1 Incorrect input in the main menu

The following chapters describe all the functionalities that exist within the application.

3 Advisor functions

After an advisor has logged into the system, they will see 5 possible options, as shown in figure 3-1. This chapter covers these four functionalities.

```
Enter username: Advisor
Enter password: Test123!

Welcome Advisor!

Press 1 to update your password
Press 2 to add a new member
Press 3 to modify or update information of a member
Press 4 to search and retrieve information of a member
Type 'exit' to exit

Enter your option: |
```

Figure 3-1 Advisor options

3.1 Updating your own password

A user may want to update their own password. This option is triggered when the user enters *1*.

The user is asked to first enter their old password. If the password is incorrect, the user is asked to enter the password again, until the correct password is entered. After the correct old (current) password has been entered, the password rules are shown and the user is asked to enter a new password that follows the rules. Once a correct password is entered, the user is asked to confirm the new password, after the same password has been entered, the password is successfully updated to the new password. These steps can be seen in figure 3-1-1.

```
Update password
Enter old password: a
Incorrect password
Enter old password: Test123!

Password has to follow the following rules:
* Must be at least 8 characters long
* Must contain at least one uppercase letter
* Must contain at least one lowercase letter
* Must contain at least one number
* Must contain at least one special character
* Must not contain any spaces

Enter new password: Test123!
Confirm new password: Test123!

Password updated
```

Figure 3-1-1 Updating password

3.2   Adding a new member

Members are stored in the application with information about them. To add a member to the system, the user should enter *2*.

The information that a member contains is as follows:

- first name,
- last name,
- street,
- house number (only digits),
- zip code,
- city,
- email address and
- mobile phone number (last 8 digits)

The user will be asked to enter these values in the order shown above, an example of this can be seen in figure 3-2-1.

```
Enter your first name: John
Enter your last name: Doe
Enter your street: Claude Debussylaan
Enter house number: 34
Enter zip code: 1082 MD

Choose your city:

1 : Rotterdam
2 : Dordrecht
3 : Zwijndrecht
4 : Papendrecht
5 : Ridderkerk
6 : Barendrecht
7 : Amsterdam
8 : Den Haag
9 : Leiden
10 : Utrecht

Enter the number of your city: 7
7
Enter email: google@gmail.com
Enter mobile phone: 12345678

Member registered
```

Figure 3-2-1 Registering a member

Certain fields are supposed to be in a certain format, such as the house number which may only contain digits, or the zip code which should be CCCCDD, where *C* is a character and *D* a digit. Once any of these fields are filled in incorrectly, an error message will be shown and the user is asked again to fill in the value, with the correct format. An example of these error messages can be seen in figure
3-2-2.

```
Enter house number: 87A
Invalid house number, only integers are accepted. Please try again
Enter house number: 87
Enter zip code: BA1234
Invalid zip code, the only acceptable zip codes are 4 digits and 2 letters. Please try again
Enter zip code: 1234 56
Invalid zip code, the only acceptable zip codes are 4 digits and 2 letters. Please try again
Enter zip code: 1234 AB

Choose your city:

1 : Rotterdam
2 : Dordrecht
3 : Zwijndrecht
4 : Papendrecht
5 : Ridderkerk
6 : Barendrecht
7 : Amsterdam
8 : Den Haag
9 : Leiden
10 : Utrecht

Enter the number of your city: 11
Invalid city, try again
Enter the number of your city: 1
1
Enter email: no.mail.com
Invalid email. Please try again
Enter email: real@mail.com
Enter mobile phone: +31 06 12345678
Invalid phone number, Only 8 digits are acceptable. Please try again
```

Figure 3-2-2 Error messages when creating new member

3.3 Modifying or updating information of a member

Any information about a member may be updated or modified by a user. To modify or update a member, which is in the database, enter the number *3*.

The user is first asked to enter a keyword to search for any members. This search is explained in more detail in 3.4. When there is no user found with the specified keyword, an error message is shown and the user will be returned to the main menu, this can be seen in figure 3-3-1.

```
Enter a keyword to search for: no member!
No members were found
```

Figure 3-3-1 No members found when looking up members

When the keyword does find members, they will be printed to the screen with a number. In order to modify or update a specific member, the number of that member must be entered. After entering a correct number, a list of values is shown which can be edited. Just like adding a member, the values should be entered in the correct format. An example of the search and updating of a member can be seen in figure 3-3-2.

```
Enter a keyword to search for: john
Following member(s) were found:

0: (8110428723, 'John', 'Doe', 'Claude Debussylaan', 34, '1082 MD', 'Amsterdam', 'google@gmail.com', 12345678, '2022-06-16 11:57:29.328564')

Enter a number to select a member: 1

Enter a valid integer number representing a user

Enter a number to select a member: 0

Selected member: (8110428723, 'John', 'Doe', 'Claude Debussylaan', 34, '1082 MD', 'Amsterdam', 'google@gmail.com', 12345678, '2022-06-16 11:57:29.328564')
1. Edit member id
2. Edit first name
3. Edit last name
4. Edit street
5. Edit house_number
6. Edit zip code
7. Edit city
8. Edit email
9. Edit phone number
10. Edit registration date
11. Exit

Enter a number to edit a member's information: 2
Enter new first_name: Cena
First_name updated
```

Figure 3-3-2 Modifying or updating member's information

After the member has been modified, a message will be shown that the corresponding value has been updated. If the user wishes to exit, the number *11* may be entered.

3.4 Searching and retrieving information of a member

A user may want to look up any information of any member. Enter the number *4* to use this function.

The user gets asked to enter a keyword to search for a specific member. This keyword can be any information that a member may contain. If the keyword would be "0", every member that has either a *0* in the id, name, house number, zip code, email address, phone number or registration date will then be shown. Figure 3-3-1 shows an error message, that is shown when no members have been found with the keyword. In any other case a list of members will be printed to the screen, like shown in figure 3-4-1.

```
Enter a keyword to search for: 0
Following member(s) were found:

0: (8110428723, 'John', 'Doe', 'Claude Debussylaan', 34, '1082 MD', 'Amsterdam', 'google@gmail.com', 12345678, '2022-06-16 11:57:29.328564')
```

Figure 3-4-1 Searching for members with keyword *0*

4 System Administrator functions

If a system administrator logs in the application, the following options will come up. Options 1 through 4 have already been discussed in the advisor functions chapter. In this part, the options 5 through 12 will be explained.

```
Welcome Test_Admin!

Press 1 to update your password
Press 2 to add a new member
Press 3 to modify or update information of a member
Press 4 to search and retrieve information of a member
Press 5 to view the list of users and their roles
Press 6 to define and add a new advisor to the system
Press 7 to modify or update an existing advisor's account and profile
Press 8 to delete an existing advisor's account
Press 9 to reset an existing advisor's password (a temporary password)
Press 10 to make a backup of the system and restore a backup
Press 11 to view the log file(s) of the system
Press 12 to delete a member from the database
Type 'exit' to exit

Enter your option: ▌
```

Figure 4-1 Main menu for system administrator

4.1 Viewing the list of users and their roles

If a system administrator enters 5, they will trigger the option to view the list of users and their roles. All the users and their roles will be displayed as shown in figure 4-1-1. The list shows the username, first and last name and the role of all the users.

```
Enter your option: 5
Following user(s) were found:


_____
Username: superadmin
First Name: Super
Last Name: Administrator
Role: Super Administrator

_____
Username: Test_Admin
First Name: Test_Admin
Last Name: Test_Admin
Role: System Administrator
```

Figure 4-1-1 List of users and their roles printed

4.2 Defining and adding a new advisor to the system

If option 6 is entered, the system administrator can add a new advisor to the system. The system administrator will have to fill in a first name, a last name, a username and a password. Other values (like id, authentication level, registration date and more) will be added automatically by the system.

```
Enter your option: 6
Enter first name: Test
Enter last name: Advisor
Enter username: T_Advisor
Enter password: Password123!

Advisor registered
```

Figure 4-2-1 Adding a new advisor

4.3 Modifying or updating an existing advisor's account and profile

If option 7 is triggered, a (super) system administrator can change the account details of an advisor. First, all the current advisors are shown in the system, after that, the user may select an advisor. If an advisor is selected, you'll be able to change any of the following:

- The employee id
- The first name
- The last name
- The username
- The password
- The registration date

```
Enter your option: 7
Following advisor(s) were found:

0: (3, 1, 'Test', 'Advisor', 'Advisor_', 'Advisor123!', '2022-06-16 12:02:39.188755', 0)
1: (4, 1, 'Test', 'Advisor', 'T_Advisor', 'Password123!', '2022-06-16 12:03:54.591975', 0)

Select an advisor: 1
The selected advisor is (4, 1, 'Test', 'Advisor', 'T_Advisor', 'Password123!', '2022-06-16 12:03:54.591975', 0)

1. Edit employee id
2. Edit first name
3. Edit last name
4. Edit username
5. Edit password
6. Edit registration_date
7. Exit

Enter a number to edit a member's information: 3
Enter new last name: NewName
Last name updated
```

Figure 4-3-1 Modifying or updating an existing advisor's account

4.4   Deleting an existing advisor's account

If option 8 is entered, the (super) system administrator is able to delete an advisor. Like the previous option, an administrator first must select an advisor. After an advisor is selected, a prompt is shown that asks if the admin confirms to delete the advisor. If the admin confirms, the advisor gets deleted.

```
Enter your option: 8
Following advisor(s) were found:

0: (3, 1, 'Test', 'Advisor', 'Advisor_', 'Advisor123!', '2022-06-16 12:02:39.188755', 0)
1: (4, 1, 'Test', 'NewName', 'T_Advisor', 'Password123!', '2022-06-16 12:03:54.591975', 0)

Select an advisor: 1
The selected advisor is (4, 1, 'Test', 'NewName', 'T_Advisor', 'Password123!', '2022-06-16 12:03:54.591975', 0)

Are you sure you want to delete T_Advisor?
Enter 'y' to delete or 'n' to cancel: y
Advisor deleted
```

Figure 4-4-1 Deleting an existing advisor's account

4.5   Resetting an existing advisor's password (a temporary password)

If option 9 is triggered, a (super) system administrator can reset an advisor's password. Selecting an advisor is the same process as the last two options. If an advisor is chosen, their password gets reset with a random generated password (which follows the security rules for passwords). The next time this advisor logs in, they need to change this password immediately. By logging in, they will be sent to the change password screen, as seen in the following figures.

```
Following advisor(s) were found:

0: (3, 1, 'Test', 'Advisor', 'Advisor_', 'Advisor123!', '2022-06-16 12:02:39.188755', 0)

Select an advisor: 0
The selected advisor is (3, 1, 'Test', 'Advisor', 'Advisor_', 'Advisor123!', '2022-06-16 12:02:39.188755', 0)

Are you sure you want to reset Advisor_'s password?
Enter 'y' to reset or 'n' to cancel: y

password is now: i$aJ~]N3pP
Password reset
```

Figure 4-5-1 Resetting an advisor's password

```
Enter username: Advisor_
Enter password: i$aJ~]N3pP

Welcome Advisor_!

Your password has been reset, please input a new password
Update password
Enter old password: i$aJ~]N3pP

Password has to follow the following rules:
* Must be at least 8 characters long
* Must contain at least one uppercase letter
* Must contain at least one lowercase letter
* Must contain at least one number
* Must contain at least one special character
* Must not contain any spaces

Enter new password: Password321@$
Confirm new password: Password321@$

Password updated
```

Figure 4-5-2 Changing password after resetting the password

4.6   Creating a backup of the system and restoring a backup

Option 10 will help the administrator to make a backup of the system. This option will also restore a backup if that is desired (if a backup has been made so far). If a backup hasn't been made yet, it shows an error message that no backup.zip exists. This can be seen in figure 4-6-1. Figure 4-6-2 shows a message that says the backup was successfully created and figure 4-6-3 shows a message that the backup is restored successfully.

```
Enter your option: 10

Press 1 to create a backup
Press 2 to restore a backup
Press 3 to go back

Enter your option: 2
Restoring from backup failed.
Error: [Errno 2] No such file or directory: 'backup.zip'
```

Figure 4-6-1 Restoring backup failed, no backup exists

```
Enter your option: 10

Press 1 to create a backup
Press 2 to restore a backup
Press 3 to go back

Enter your option: 1
Backup has been successfully made
```

Figure 4-6-2 Backup created successfully

Figure 4-6-3 Backup restored successfully

4.7 Viewing the log file(s) of the system

Option 11 will show all the logs of the system. For safety reasons, the logs are encrypted in the database at any time, so the only way to view the logs, is through this option. The logs show the log id, which user used a certain activity, the date and time, the description and an optional additional information which may be empty and whether the activity was suspicious or not. An example of logs can be seen in figure 4-7-1.

Figure 4-7-1 Log files

If there are any suspicious activities, they should be read by an administrator. If there are unread suspicious activities logged whenever an administrator logs in, they will be showed as a notification as seen in figure 4-7-2.

Figure 4-7-2 Unread suspicious activities notification

Additionally, when the administrator wishes to view these suspicious activities, the user may view the logs, which now has few options as seen in figure 4-7-3.

```
Enter your option: 11

ALERT!
There are unread suspicious activities.
Amount of unread suspicious activities: 1

Press 1 to view all the log(s)
Press 2 to view only the unread suspicious log(s)
Press 3 to go back
```

Figure 4-7-3 Viewing logs while there are unread suspicious activities logged

If the user enters *2*, only the unread suspicious logs will be printed and then updated to read. It is important to note that when there are no unread suspicious activities logged, when the user enters *11*, the user won't see these options and simply all log(s) will be printed to the screen.

4.8   Deleting a member from the database

Option 12 will remove a member from the database if needed. First the system asks for a keyword to search for e.g.: a first name, a customer ID, street etc. (for more explanation about member look up view chapter 3.4). If a member with the input keyword is found, the user can select a member. If a member is selected there will be a prompt, asking if the user is sure to delete that member. If answered with 'y' the selected member will be deleted from the database.

```
Enter your option: 12
Enter a keyword to search for: member
Following member(s) were found:

0: (6243450835, 'New', 'Member', 'Street', 69, '1234AB', 'Amsterdam', 'New@Member.com', 12345678, '2022-06-16 12:22:40.950942')

Enter a number to select a member to delete: 0
Are you sure you want to delete the member: New Member?
Enter 'y' to delete or 'n' to cancel: y
Member deleted
```

Figure 4-8-1 Deleting a member from the database

5   Super administrator functions

If a super administrator logs in, there are 4 new options available in the application.

```
Welcome superadmin!

Press 1 to update your password
Press 2 to add a new member
Press 3 to modify or update information of a member
Press 4 to search and retrieve information of a member
Press 5 to view the list of users and their roles
Press 6 to define and add a new advisor to the system
Press 7 to modify or update an existing advisor's account and profile
Press 8 to delete an existing advisor's account
Press 9 to reset an existing advisor's password (a temporary password)
Press 10 to make a backup of the system and restore a backup
Press 11 to view the log file(s) of the system
Press 12 to delete a member from the database
Press 13 to define and add a new administrator to the system
Press 14 to modify or update an existing administrator's account and profile
Press 15 to delete an existing administrator's account
Press 16 to reset an existing administrator's password (a temporary password)
Type 'exit' to exit
```

Figure 5-1 Main menu for super administrator

Options 13 through 16 are only available to super administrators, these will be discussed in this chapter. The options 1 through 12 are discussed in the preceding chapters.

5.1   Defining and adding a new administrator to the system

Option 13 will define and add a new administrator to the system. By entering this option, you'll be asked to enter a first name and last name, a username and a password. All the other details needed in the database will be generated by the application.

The username and password must follow a format. A username must be at least 6 characters long and at most 10 characters long. A username may contain letters (a-z, A-Z), numbers (0-9), underscores (_), apostrophes ('), and periods (.). As mentioned before, there's no case-sensitivity in usernames, so superadmin is the same as SUPERADMIN. No duplicate usernames are allowed.

The password must be at least 8 characters long and at most 30 characters long. The password may contain letters (a-z, A-Z), numbers (0-9) and special characters (~!@#$%&_-+=`|\(){}[]:;'<>,.?/). The password must have a combination of at least one lowercase letter, one uppercase letter, one digit and one special character.

```
Enter your option: 13
Enter first name: New
Enter last name: Administrator
Enter username: NewAdmin2
Enter password: Admin2352@%@00.

System administrator registered
```

Figure 5-1-1 Adding a new administrator

5.2 Modifying or updating an existing administrator's account and profile

Option 14 will modify or update an existing administrator's account. First all the administrators in the system will be shown. If an administrator is selected, the user will be able to edit one of the following:

- The employee id
- The first name
- The last name
- The username
- The password
- The registration date

```
Enter your option: 14
Following admin(s) were found:

0: (2, 2, 'Test_Admin', 'Test_Admin', 'Test_Admin', 'Test_Admin123!', '2022-06-16 11:53:27.399104', 0)

Select an admin: 0
The selected admin is (2, 2, 'Test_Admin', 'Test_Admin', 'Test_Admin', 'Test_Admin123!', '2022-06-16 11:53:27.399104', 0)

1. Edit employee id
2. Edit first name
3. Edit last name
4. Edit username
5. Edit password
6. Edit registration_date
7. Exit

Enter a number to edit a member's information: 5
Enter new password: Password987@!
Password updated
```

Figure 5-2-1 Updating an administrator's account

5.3 Deleting an existing administrator's account

Option 15 will assist the super administrator to delete an existing administrator's account. All the system administrators will be shown, and if a system administrator is selected to be deleted, a prompt will be shown, asking the superadmin if they are sure about this decision. If the superadmin enters 'y', the administrator will be deleted.

```
Enter your option: 15
Following admin(s) were found:

0: (2, 2, 'Test_Admin', 'Test_Admin', 'Test_Admin', 'Password987@!', '2022-06-16 11:53:27.399104', 0)
1: (5, 2, 'New', 'Administrator', 'NewAdmin2', 'Admin2352@%@00.', '2022-06-16 12:35:08.789512', 0)

Select an admin: 1
The selected admin is (5, 2, 'New', 'Administrator', 'NewAdmin2', 'Admin2352@%@00.', '2022-06-16 12:35:08.789512', 0)

Are you sure you want to delete NewAdmin2?
Enter 'y' to delete or 'n' to cancel: y
Admin deleted
```

Figure 5-3-1 Deleting an administrator's account

5.4 Resetting an existing administrator's password (a temporary password)

Option 16 will reset an existing administrator's password. First all the administrators in the application will be shown, after that it's possible to select an administrator. If an administrator is selected, the password can be reset. If a password of an administrator is reset, the next time they log in, they will be redirected to the 'change password' screen immediately, since we don't want to use temporary passwords in this application.

```
Enter your option: 16
Following admin(s) were found:

0: (2, 2, 'Test_Admin', 'Test_Admin', 'Test_Admin', 'Password987@!', '2022-06-16 11:53:27.399104', 0)

Select an admin: 0
The selected admin is (2, 2, 'Test_Admin', 'Test_Admin', 'Test_Admin', 'Password987@!', '2022-06-16 11:53:27.399104', 0)

Are you sure you want to reset Test_Admin's password?
Enter 'y' to reset or 'n' to cancel: y

password is now: -k3fNN@6P6
Password reset
```

Figure 5-4-1 Resetting an administrator's password with a temporary password

```
Enter username: Test_Admin
Enter password: -k3fNN@6P6

Welcome Test_Admin!

Your password has been reset, please input a new password
Update password
Enter old password: -k3fNN@6P6

Password has to follow the following rules:
* Must be at least 8 characters long
* Must contain at least one uppercase letter
* Must contain at least one lowercase letter
* Must contain at least one number
* Must contain at least one special character
* Must not contain any spaces

Enter new password: PassWord@$@0013..__
Confirm new password: PassWord@$@0013..__

Password updated
```

Figure 5-4-2 Updating password after password reset