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DEPARTMENT OF COMPUTING

COMP3211 Software Engineering

Project Group11

Personal Information Manager

User Manual

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1 Introduction

This user manual is a guide to the Personal Information Manager (PIM) system. It is designed to help users to understand the system and use it correctly. The manual shows the whole system structure and the operation process of the system. Also, this manual includes the error situations for different stages when operating the system, as well as the corresponding tips and correct operations. Following this manual, users can easily use the system to manage their personal information through the PIM system for the first time.

2 System Operation Guide

2.1 System Main Menu

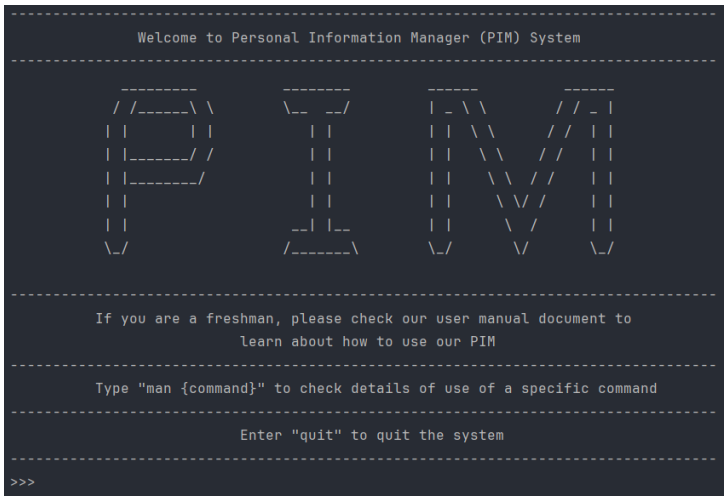

Figure 1: Main Menu

2.2 Create and Store Personal Information Records(PIR)

> Creating process is needed to enter the PIM system for the first time. The PIRs are stored in the system and can be modified, deleted, printed, and searched.

2.2.1 Creation Rules

- User have to follow the rules when creating a PIR
  - Create command input rule: `create {PIR type} {PIR Name}`
    - `create` is the first keyword of the command
    - The `{PIR type}` should be one of the four types: **txt**, **task**, **event**, **contact**
    - `{PIR Name}` should be a string
    - User is not allowed to create an **existing** PIR
    - One possible creation command: `create txt test`
    - See details in Figure [6]
  - Data Input Rules:
    - `*` means essential information, which is required to be filled in
    - Options out of range are not allowed

    - Figure [7]
- Data Format Rules:
    - Time format: `yyyy-mm-dd-hh:mm`
        - e.g. `2023-12-31-23:59`
    - Mobile phone number is required to be digits only
    - Figure [8]
- Confirm and cancel Rules:
    - Store the PIR or not
    - Cancel the creation or not

2.2.2 Creation Process

```
>>> create txt test

<CREATE Text>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done               - Finish and save
    [1] Cancel             - Go back and do NOT save
    [2] *Notes             - Add or edit your notes

>>> Your choice (a single option number from above): 2
>>> Your input:
>>> test
>>> Your choice (a single option number from above): 0

[Preview]

<Data of [txt]test>
[Notes]
   test


Do you want to confirm?
    [0] No  [1] Yes

>>> Your choice (a single option number from above): 1
< create successfully >
>>>
```

Figure 2: Create txt

```
>>> create task test

<CREATE Task>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done               - Finish and save
    [1] Cancel             - Go back and do NOT save
    [2] *Deadline          - Add or edit the deadline time in format "YYYY-MM-DD-HH:MM"
    [3] Description        - Add or edit the description

>>> Your choice (a single option number from above): 2
>>> Your input:
>>> 2023-11-24-09:00
>>> Your choice (a single option number from above): 0

[Preview]

<Data of [task]test>
[Deadline]
    2023-11-24-09:00
[Description]
    null


Do you want to confirm?
    [0] No  [1] Yes

>>> Your choice (a single option number from above): 1
< create successfully >
>>>
```

Figure 3: Create task

```
>>> create event test

<CREATE Event>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Starting Time    - Add or edit the starting time in format "YYYY-MM-DD-HH:MM"
    [3] *Alarm Time       - Add or edit the alarm time in format "YYYY-MM-DD-HH:MM"
    [4] Description       - Add or edit the description

>>> Your choice (a single option number from above): 2
>>> Your input:
>>> 2023-11-24-09:00
>>> Your choice (a single option number from above): 3
>>> Your input:
>>> 2023-11-24-08:00
>>> Your choice (a single option number from above): 0

[Preview]

<Data of [event]test>
[Starting Time]
    2023-11-24-09:00
[Alarm Time]
    2023-11-24-08:00
[Description]
    null
Do you want to confirm?
    [0] No  [1] Yes

>>> Your choice (a single option number from above): 1
< create successfully >
```

Figure 4: Create event

```
>>> create contact test

<CREATE Contact>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Names            - Add or edit names of contact persons
    [3] *Addresses        - Add or edit addresses of contact persons
    [4] *Mobile Numbers   - Add or edit mobile numbers of contact persons with digits only

>>> Your choice (a single option number from above): 2
>>> Your input:
>>> test user
>>> Your choice (a single option number from above): 3
>>> Your input:
>>> test address
>>> Your choice (a single option number from above): 4
>>> Your input:
>>> 12345678
>>> Your choice (a single option number from above): 0

[Preview]

<Data of [contact]test>
[Names]
    test user
[Addresses]
    test address
[Mobile Numbers]
    12345678
Do you want to confirm?
    [0] No  [1] Yes

>>> Your choice (a single option number from above): 1
< create successfully >
```

Figure 5: Create contact

2.2.3 Error

```
>>> create
< Error: Wrong format. >
    Right format: "create {PIRtype} {PIRname}"
```

Figure 6: Create - Command Input Error

```
>>> new txt test
< Error: Command does NOT exist. >
>>> create text test
< Error: PIR type does NOT exist. >
>>> create txt test
< Error: PIR already exists. >
```

Figure 6: Create - Command Input Error

```
<CREATE Text>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Notes            - Add or edit your notes

>>> Your choice (a single option number from above): 0
<Can not save> Please fill all the essential information
>>> Your choice (a single option number from above):
< Error: Invalid Input option. >
 Please input the number corresponding to the desired option from above.
>>> Your choice (a single option number from above): 3
< Error: Invalid Input option. >
 Please input the number corresponding to the desired option from above.
```

Figure 7: Create - Data Input Error

```
<CREATE Task>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Deadline         - Add or edit the deadline time in format "YYYY-MM-DD-HH:MM"
    [3] Description       - Add or edit the description

>>> Your choice (a single option number from above): 0
<Can not save> Please fill all the essential information
>>> Your choice (a single option number from above):
< Error: Invalid Input option. >
 Please input the number corresponding to the desired option from above.
>>> Your choice (a single option number from above): 4
< Error: Invalid Input option. >
 Please input the number corresponding to the desired option from above.
>>> Your choice (a single option number from above): a
< Error: Invalid Input option. >
 Please input the number corresponding to the desired option from above.
```

Figure 7: Create - Data Input Error

```
<CREATE Event>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Starting Time    - Add or edit the starting time in format "YYYY-MM-DD-HH:MM"
    [3] *Alarm Time       - Add or edit the alarm time in format "YYYY-MM-DD-HH:MM"
    [4] Description       - Add or edit the description

>>> Your choice (a single option number from above): 0
<Can not save> Please fill all the essential information
>>> Your choice (a single option number from above): 5
< Error: Invalid Input option. >
 Please input the number corresponding to the desired option from above.
```

Figure 7: Create - Data Input Error

```
<CREATE Contact>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Names            - Add or edit names of contact persons
    [3] *Addresses        - Add or edit addresses of contact persons
    [4] *Mobile Numbers   - Add or edit mobile numbers of contact persons with digits only

>>> Your choice (a single option number from above): 5
< Error: Invalid Input option. >
 Please input the number corresponding to the desired option from above.
>>> Your choice (a single option number from above): 0
<Can not save> Please fill all the essential information
```

Figure 7: Create - Data Input Error

```
<CREATE Contact>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Names            - Add or edit names of contact persons
    [3] *Addresses        - Add or edit addresses of contact persons
    [4] *Mobile Numbers   - Add or edit mobile numbers of contact persons with digits only

>>> Your choice (a single option number from above): 4
>>> Your input:
>>> abc123
< Error: Wrong mobile number format. >
    Mobile number can only contain digits
```

Figure 8: Create - Data Format Error

```
<CREATE Event>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Starting Time    - Add or edit the starting time in format "YYYY-MM-DD-HH:MM"
    [3] *Alarm Time       - Add or edit the alarm time in format "YYYY-MM-DD-HH:MM"
    [4] Description       - Add or edit the description

>>> Your choice (a single option number from above): 2
>>> Your input:
>>> abc
< Error: Wrong date format. >
    Right format: yyyy-MM-dd-HH:mm
>>> Your choice (a single option number from above): 3
>>> Your input:
>>> abc
< Error: Wrong date format. >
    Right format: yyyy-MM-dd-HH:mm
```

Figure 8: Create - Data Format Error

```
<CREATE Task>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Deadline         - Add or edit the deadline time in format "YYYY-MM-DD-HH:MM"
    [3] Description       - Add or edit the description

>>> Your choice (a single option number from above): 2
>>> Your input:
>>> abc
< Error: Wrong date format. >
    Right format: yyyy-MM-dd-HH:mm
```

Figure 8: Create - Data Format Error

2.3 PIR Operation Process

2.3.1 Modify

2.3.1.1 Modification Rules

- The rules of **Midification** is **similar** to **Creation**
  - Modify command input rule: `modify {PIR type} {PIR Name}`
    - Only the **existing** PIR can be modified
    - e.g., `modify txt test`
    - See details in Figure [10]
  - Data Input Rules:
    - `*` means essential information, which is required not to be null;
    - Options out of range are not allowed
    - Figure [11]
  - Data Format Rules:
    - Time format: `yyyy-mm-dd-hh:mm`
      - e.g. `2023-12-31-23:59`
    - Mobile phone number is required to be digits only
    - Figure [12]
  - Confirm and cancel Rules:
    - Confirm to modify the PIR or not
    - Cancel the modification or not

2.3.1.2 Modification Process

```
>>> modify txt test

<MODIFY Text>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Notes            - Add or edit your notes

>>> Your choice (a single option number from above): 2
[Previous Data]
    test
>>> Your input:
>>> new test
>>> Your choice (a single option number from above): 0

[Preview]

<Data of [txt]test>
[Notes]
   new test


Do you want to confirm?
    [0] No  [1] Yes

>>> Your choice (a single option number from above): 1
< modify successfully >
```

Figure 9: Modify

2.3.1.3 Error

```
>>> modify
< Error: Wrong format. >
    Right format: "modify {PIRtype} {PIRname}"
```

Figure 10: Modification - Command Input Error

```
>>> modify text test
< Error: PIR type does NOT exist. >
>>> modify txt test1
< Error: PIR does NOT exist. >
>>> update txt test
< Error: Command does NOT exist. >
```

Figure 10: Modification - Command Input Error

```
<MODIFY Text>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Notes            - Add or edit your notes

>>> Your choice (a single option number from above): 3
< Error: Invalid Input option. >
 Please input the number corresponding to the desired option from above.
>>> Your choice (a single option number from above): 2
[Previous Data]
    test
>>> Your input:
>>>
>>> Your choice (a single option number from above): 0
<Can not save> Please fill all the essential information
```

Figure 11: Modification - Data Input Error

```
>>> modify txt test

<MODIFY Text>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Notes            - Add or edit your notes

>>> Your choice (a single option number from above): 2
[Previous Data]
    test
>>> Your input:
>>>
>>> Your choice (a single option number from above): 0
<Can not save> Please fill all the essential information
```

Figure 12: Modification - Data Format Error

```
<MODIFY Task>
Please select the appropriate option to perform the operation you want.
Fields marked with an '*' are essential.
    [0] Done              - Finish and save
    [1] Cancel            - Go back and do NOT save
    [2] *Deadline         - Add or edit the deadline time in format "YYYY-MM-DD-HH:MM"
    [3] Description       - Add or edit the description

>>> Your choice (a single option number from above): 2
[Previous Data]
    2023-11-24-09:00
>>> Your input:
>>> abc
< Error: Wrong date format. >
    Right format: yyyy-MM-dd-HH:mm
```

Figure 12: Modification - Data Format Error

2.3.2 Delete

2.3.2.1 Deletion Rules

- The rules of **Deletion**
  - Deletion command input rule: `del {PIR type} {PIR Name}`
    - Only the **existing** PIR can be modified
    - e.g., `del txt test`
    - See details in Figure [13]
  - Confirm and cancel Rules:
    - Confirm to delete the PIR or not
    - Cancel the deletion or not

2.3.2.2 Deletion Process

```
>>> del txt test

<DELETE Confirmation>
[PIR information]

<Data of [txt]test>
[Notes]
   new test


Do you want to delete this PIR FOREVER?
    [0] No  [1] Yes

>>> Your choice (a single option number from above): 1
< delete successfully >
```

Figure 13: Delete

2.3.2.3 Error

```
>>> del
< Error: Wrong format. >
    Right format: "del {PIRtype} {PIRname}"
```

Figure 14: Deletion Error

```
>>> delete txt test
< Error: Command does NOT exist. >
>>> del text test
< Error: PIR type does NOT exist. >
>>> del txt test1
< Error: PIR does NOT exist. >
```

Figure 14: Deletion Error

2.3.3 Print

2.3.3.1 Print Rules

- The rules of **Print**
  - print command input rule: `print {PIR type} {PIR Name}` or `print -a`
    - Only the **existing** PIR(s) can be printed
    - e.g., `print txt test` , `print -a`
    - See details in Figure [15]

2.3.3.2 Print Process

```
>>> print -a

<Data of [task]test>
[Deadline]
    2023-11-24-09:00
[Description]
    null


<Data of [txt]test>
[Notes]
   test

>>> print task test

<Data of [task]test>
[Deadline]
    2023-11-24-09:00
[Description]
    null
```

Figure 15: Print

2.3.3.3 Error

```
>>> print
< Error: Wrong format. >
    Right format: "print {PIRtype} {PIRname}" or "print -a" to print all
```

Figure 16: Print Error

```
>>> print -s
< Error: Wrong format. >
    Right format: "print {PIRtype} {PIRname}" or "print -a" to print all
>>> print txt test
< Error: PIR does NOT exist. >
>>> printf txt test
< Error: Command does NOT exist. >
```

Figure 16: Print Error

2.3.4 Search

2.3.4.1 Search Rules

- The rules of **Search**
  - Search based on **type**:
    - `search -{txt, task, event, contact}`
      - Only the **existing** PIR can be searched
      - **NO space** between `-` and `{txt, task, event, contact}`
      - **Only** one type can be searched at a time
      - e.g., `search -txt`
      - See details in Figure [17]
  - Search based on expression:
    - `search "{string}"`
      - `"{string}"` : For string searches, double quotes are mandatory
      - `string` can be nothing
      - e.g., `search "test"` , `search "description"`
    - `search {operator}{time}`
      - **NO space** between `{operator}` and `{time}`
      - `{time}` : For time searches, the format is `yyyy-MM-dd-HH:mm` or `hh:mm`
      - `{operator}` includes: `>` , `<` , `=`
      - e.g., `search >2021-12-12-12:12` , `search <12:12`
  - Search based on **logic** operator:
    - Can be combined with **logic operators** to form a complex search condition
    - `search {expression} {logic operator} {expression}`
      - `{logic operator}` : `||` or `&&` or `!`
      - e.g. `search "test" && <12:12` , `search "test" || <12:12` , `search "test" && ! <12:12`
  - Search with **multiple** conditions:
    - Multiple conditions can be combined with `&&` or `||` or `!` or `()` to form a complex search condition
    - e.g., `search ( >11:00 || <2022-12-12-12:12 ) && ( "\" s" || ! "sss" )`
  - Special rule for content search:
    - For `"` in the content search, the **escape** character `\` is required before `"`
      - e.g., `search "\" s"` → search the PIR which contains the content of `" s`

2.3.4.2 Search Process

```
>>> search "abc"
[Search result]
[txt]test
>>> search <2023-11-24-19:00
[Search result]
[task]ccc
[event]acd
>>> search >10:00 && "acd"
[Search result]
[event]acd
>>> search <10:00 || "b"
[Search result]
[txt]test
>>> search ! <10:00
[Search result]
[task]ccc
[txt]test
[event]acd
>>> search ( >11:00 || <2022-12-12-12:12 ) && ( "\" s" || ! "sss" )
[Search result]
[event]acd
```

Figure 17: Search

2.3.4.3 Error

```
>>> search """"
< Error: Wrong search format. >
    Please check user manual for more details
>>> search -text
< Error: Wrong search format. >
    PIR type does NOT exist
>>> search < 2023-11-00
< Error: Wrong search format. >
    Please check user manual for more details
>>> search <2023-11-01-11:00
< Error: Wrong search format. >
    Please check user manual for more details
>>> search - txt
< Error: Wrong search format. >
    PIR type does NOT exist
>>> search ( " )
< Error: Wrong search format. >
    Please check user manual for more details
```

Figure 18: Search Error

2.4 PIM System Operation Process

2.4.1 Store

2.4.1.1 Store Rules

- The rules of **Store**
  - Store command input rule:
    - `store {fileName.pim}`
      - The file name must end with `.pim`
      - The storing path is the default path, which is the same as the srouce path of the PIM system
      - e.g., `store test.pim`
    - `store {fileName.pim} {path}`
      - The file name must end with `.pim`
      - The storing **absolute** path can be specified by the user
      - The **absolute** path must be **valid** and **NO** an **existing** file with the **same name**.
      - e.g., `store test.pim D:/test` for Windows
    - **Not allowed to store a PIM file with no PIRs in current PIM system**

2.4.1.2 Store Process

```
>>> store test.pim
< store PIM to D:\User\Documents\GitHub\New-PIM\test.pim successfully >
>>> store test1.pim D:\User\Documents\GitHub\New-PIM\
< store PIM to D:\User\Documents\GitHub\New-PIM\test1.pim successfully >
```

Figure 18: Store

2.4.1.3 Error

```
>>> store test.pim
< Error: The file already exists.
>>> store test
< Error: File must have a ".pim" suffix.
>>> store test test test
< Error: Wrong format. >
    Right format: "store {PIMname.pim}" or "store {PIMname.pim} {saveDir}"
```

Figure 19: Store Error

```
>>> store test.pim
< There is no PIR created now. >
```

Figure 19: Store Error

2.4.2 Load

2.4.2.1 Load Rules

- The rules of **Load**
  - Load command input rule:
    - `load {path/to/fileName.pim}`
      - `fileName.pim` must be an **existing** file ending with `.pim`
      - The loading path has to be **valid** and **existing**
      - e.g., `load test.pim`, `load D:/test/test.pim` for Windows
    - Special Rule
      - If the loaded file contains the PIRs with the **same name and type** as the existing PIRs in the PIM system, PIM will give the **confirmation** message to ask the user whether to **overwrite** the **current** PIRs with the **loaded** PIRs
      - Under this situation, the PIM will print all the **overwritten** PIRs and the **loaded** PIRs on screen.

2.4.2.2 Load Process

```
>>> load test.pim
< load successfully >
>>> print -a

<Data of [txt]test>
[Notes]
   Test.

>>> load test2.pim

< Conflict PIR in current PIM >

<Data of [txt]test>
[Notes]
   Test.


< Conflict PIR in loading PIM >

<Data of [txt]test>
[Notes]
   Test.


Do you want to overwrite this PIR?
    [0] No  [1] Yes
>>> Your choice (a single option number from above): 1
<Overwrite the current PIR with the loaded one>
< load successfully >
```

Figure 20: Load

2.4.2.3 Error

```
>>> load dsa
< Error: File must have a ".pim" suffix. >
>>> load D:\\test.pim
< Error: The file does not exists. >
>>> load
< Error: Wrong format. >
    Right format: "load {path/to/fileName.pim}"
```

Figure 21: Load Error

2.4.3 Manual

- Enter `man {command}` to get the help information of the command
  - The `{command}` should be one of the following commands: `create`, `modify`, `del`, `print`, `search`, `store`, `load`
  - e.g., `man create`

2.4.3.1 Manual Process

- `man create`

```
>>> man create

[Command format]
    create {PIRtype} {PIRname}
[Functionality]
    Create a {PIRtype} type of PIR named as {PIRname}. Then you will follow a menu to fill in data of the PIR
[Parameter]
    {PIRtype} -> txt task event contact
    {PIRname} -> anything]

>>>
```

Figure 21: Man

2.4.3.2 Error

```
>>> man create

[Command format]
    create {PIRtype} {PIRname}
[Functionality]
    Create a {PIRtype} type of PIR named as {PIRname}. Then you will follow a menu to fill in data of the PIR
[Parameter]
    {PIRtype} -> txt task event contact
    {PIRname} -> anything]

>>>
```

Figure 22: Man Error

2.4.4 Exit

- Enter `quit` to exit the PIM system

```
>>> quit
~~~Bye~~~
```

Figure 23: Quit