COMP3211 Software Engineering

Personal Information Manager (PIM)

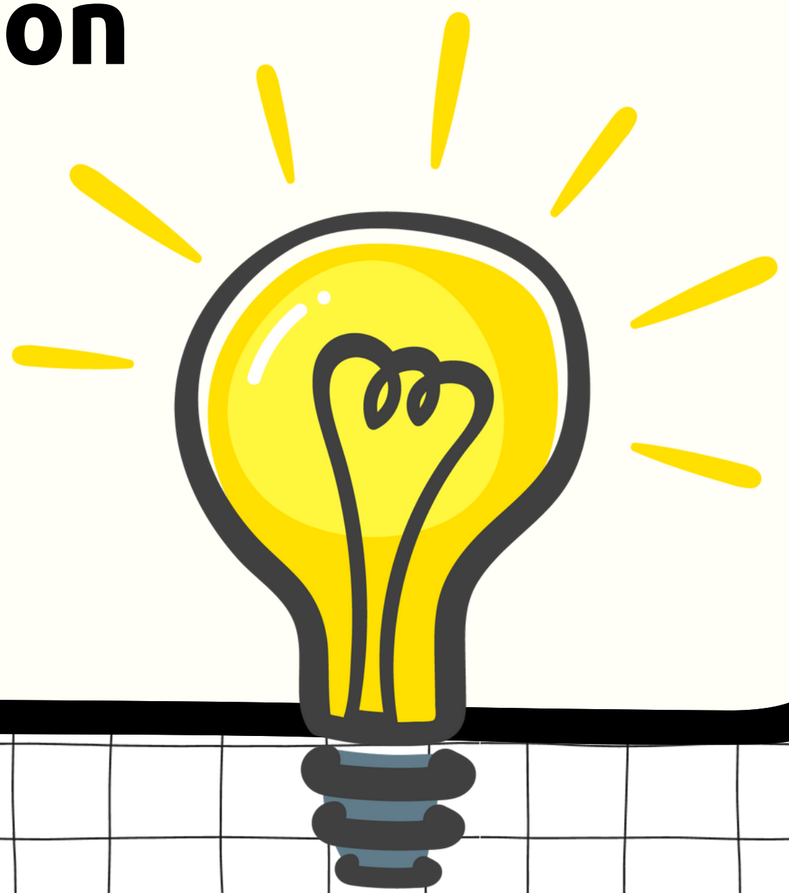

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Table of Content

System Requirement

Creation:

- The system shall allow the creation of notes with plain text content.
- The system shall allow the creation of tasks with a description and a deadline.
- The system shall allow the creation of events with a description, starting time, and alarm time.
- The system shall allow the creation of contacts with a name, address, and phone number.
- The system shall read files with the extension name “.pim” from the file repository

System Requirement

Searching:

- The system shall allow searching for a note by checking whether the content contains a specific string.
- The system shall allow searching for a task by checking whether the description contains a specific string or/and whether the deadline is before, after, or equal to a given point in time.
- The system shall allow searching for an event by checking whether the description contains a specific string or/and whether the start time or/and alarm is before, after, or equal to a given point in time.
- The system shall allow searching for a contact by checking whether the name, address, or/and mobile number contains a specific string.

System Requirement

Modify and Delete:

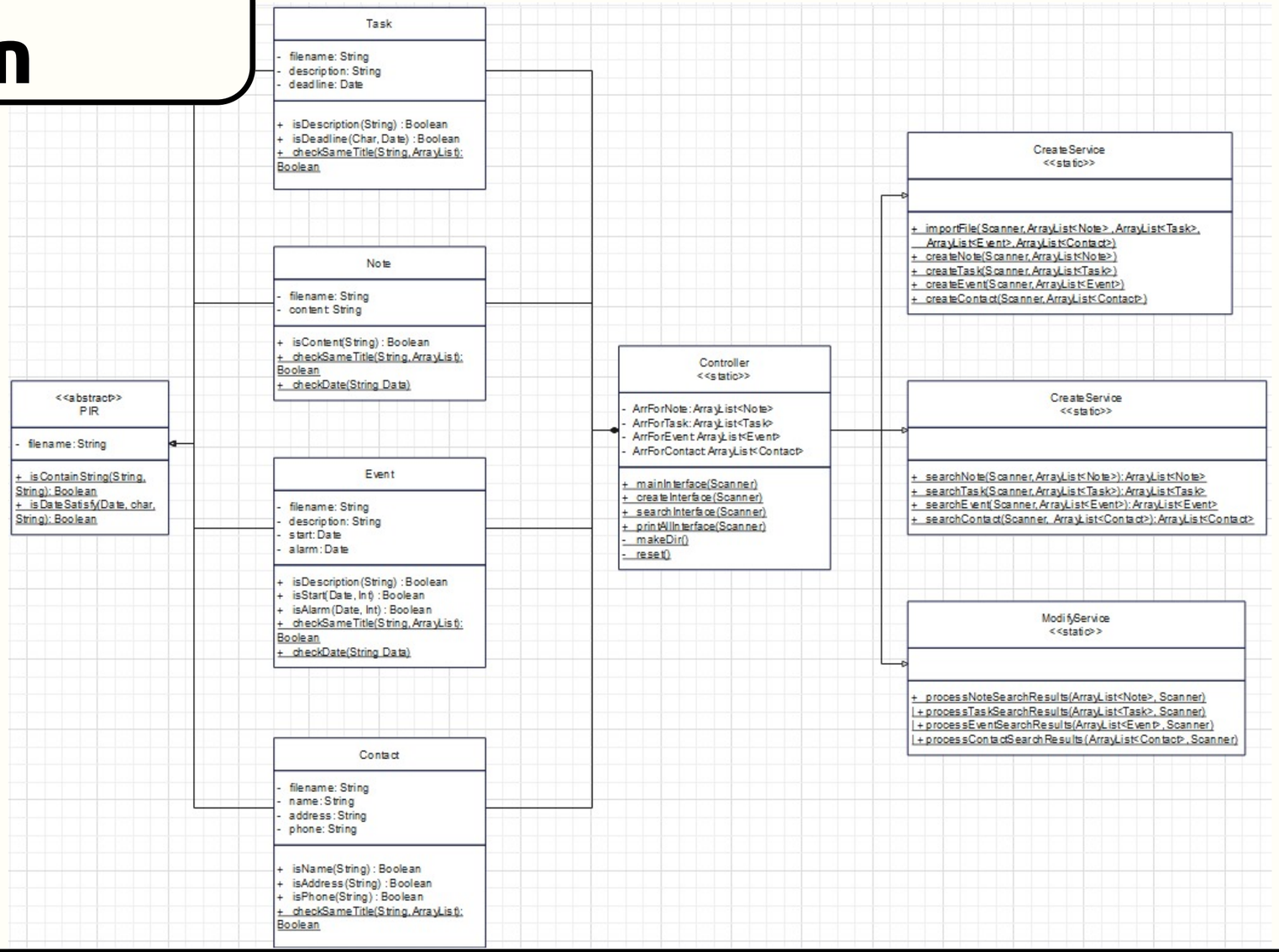
- The system shall allow the modification of existing personal information records (PIRs), including notes, tasks, events, and contacts.

- The system shall allow deletion of a specified PIR.

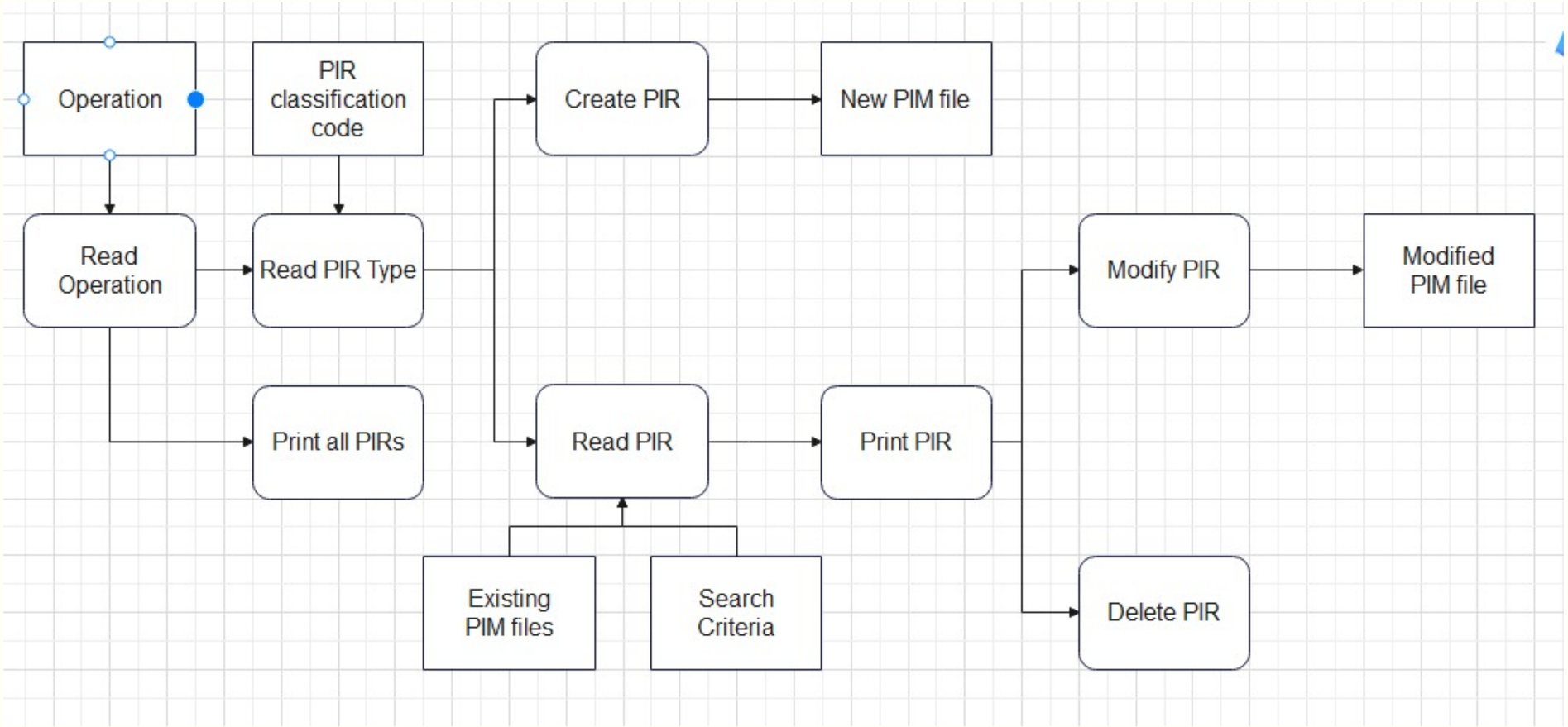
Printing PIRs:

- The system shall allow printing out the information for a specified PIR or all PIRs recorded.

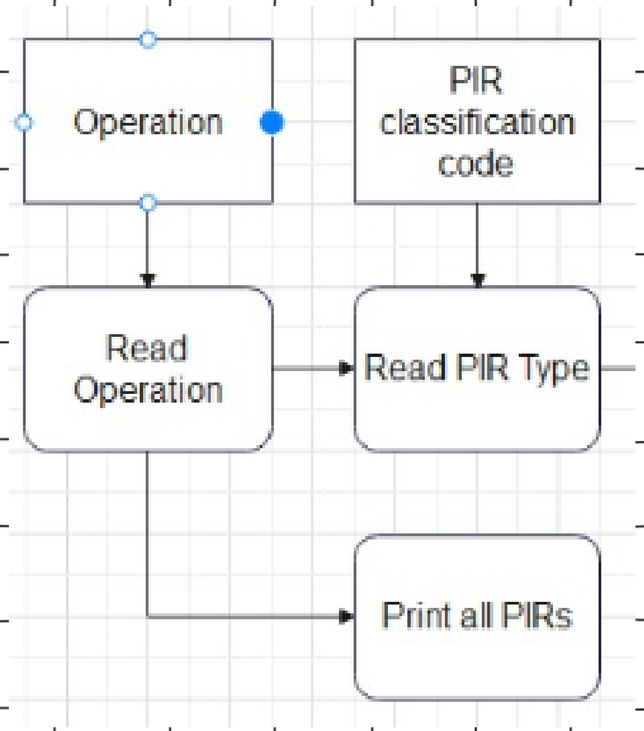
Overall Design



Overall Design



System Architecture



First get the operation from the controller

→ Controller define the operation

(1)If the operation is “Print all PIRs”

→ Output the .pim file with all PIRs inside

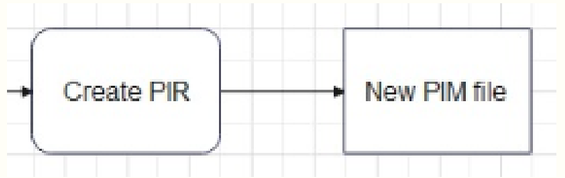
(2)If the operation is other type of operation

→ Read the classification code of PIR and proceed to next stage

System Architecture

If the operation is “Create PIR”

→ Create the new PIR according to its classification code



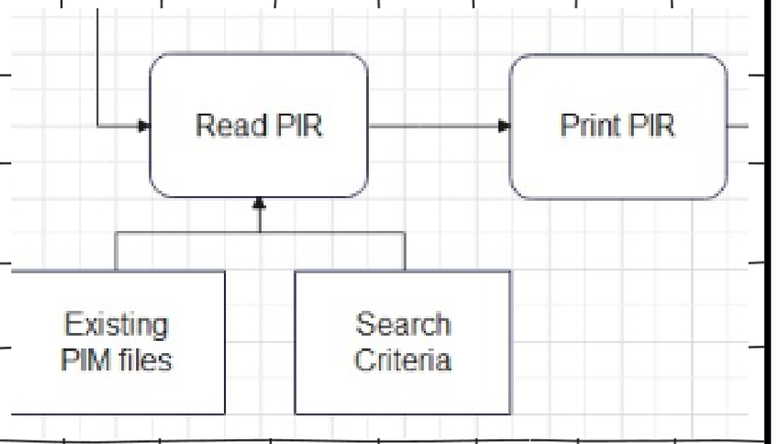
If the operation is that will read for PIR:

(1) “Input by .pim file”

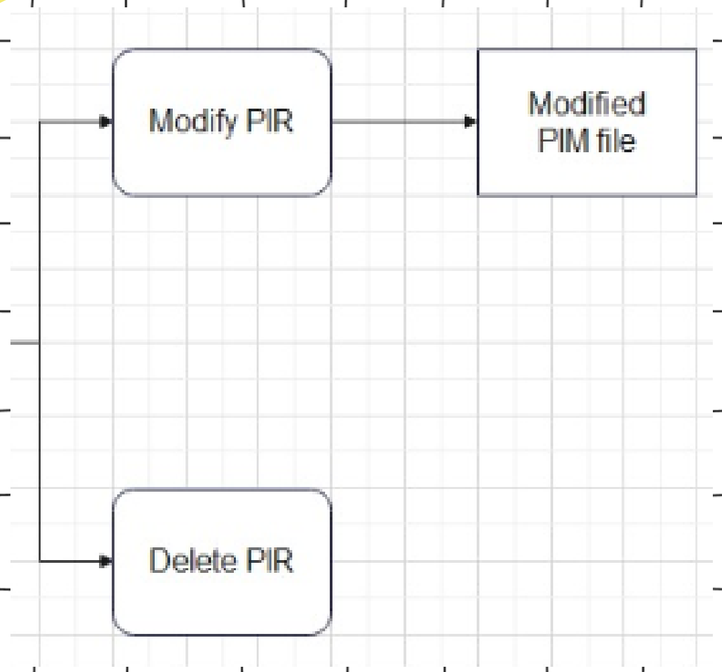
→ Read from existing .pim file and input to PIM

(2) “Search PIR”

→ Use the search criterial mentioned in system requirement and find specify PIR



System Architecture



After searching from PIR, choose one of the displayed PIRs and select either of the following action:

(1) Modify PIR

⟶ The content of the selected PIR will be changed to be same as input

(2) Delete PIR

⟶ The selected PIR will be removed

Strategy For High Quality Unit Tests

Arrange-Act-Assert (AAA) Pattern

- determine input -> test -> compare
- one action for one test
- force verification of each test case

Increase code coverage

- ensure every line of code works

Automate unit testing

- perform more tests
- input command automatically

Thank you