> **Dong Wang a1779748***

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> **-The University of Adelaide**

Project Specification - Major Practical

Introduction

The "MineQuiz" is a self-learning helper, which can store your own questions into specific subject. Help you easily review your own questions at any time!

Design Descirption

Assessment Concepts

Memory allocation from the stack and the heap

- Array: The subject title will store in an array which is on the stack.
- Vector: For efficient growth the size of a question list, I will use the vector to save the question from the file.
- Strings: Filename and "Questions" will use the string data type to store.
- Objects:
    - SuperClass-Subject{OOP, ISE, ENG - SubClass}
    - Iofile Class
    - Windows Class - using ncurses

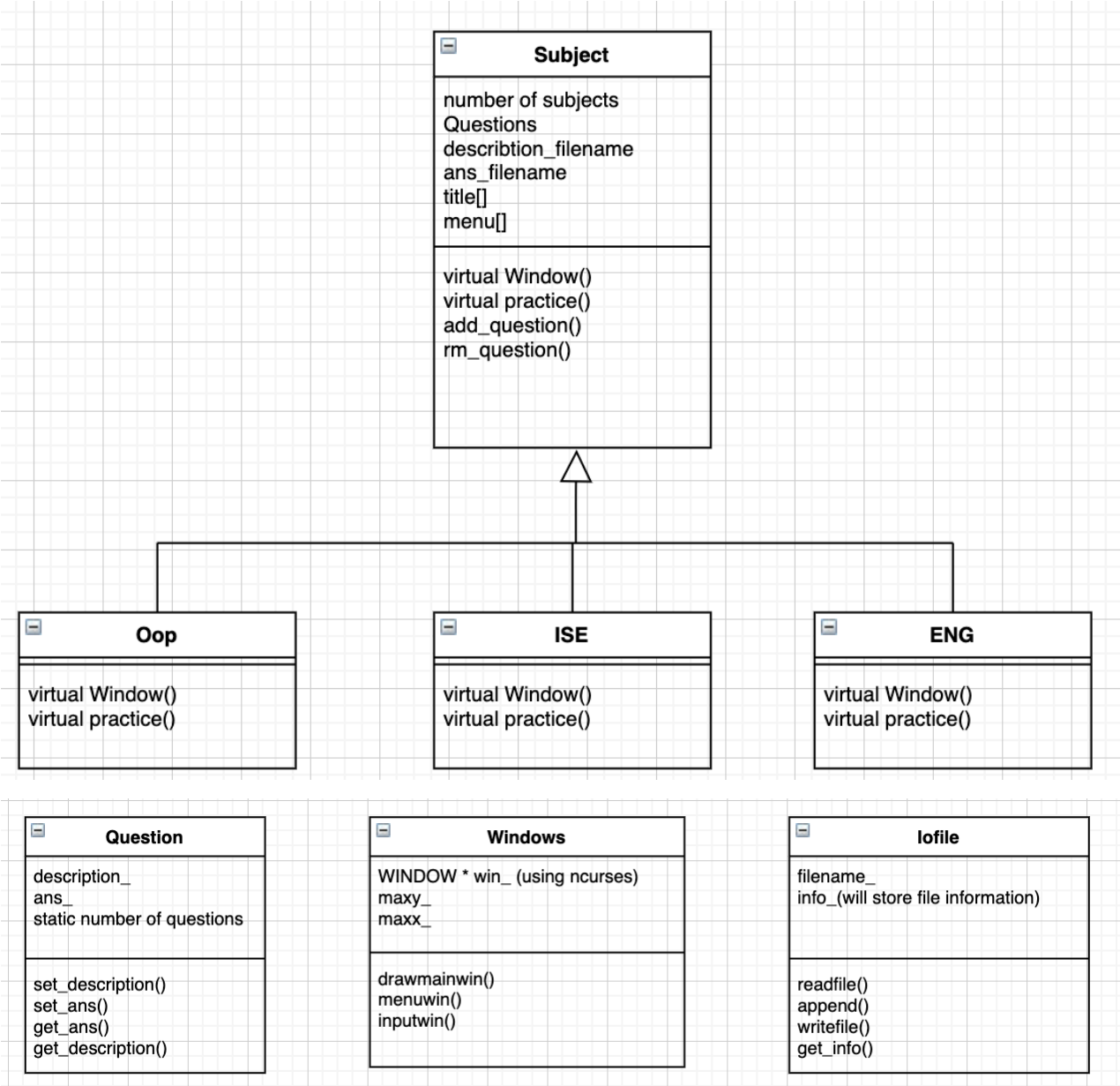
User Input and Output

- file IO - using fstream
- user input up,down,left,right key - using ncurses [keypad(), getch()].
- user input "Questions" or remove a "Question" - using ncurses [getch()].
- all of the screen output will using ncurses printw(), which is like printf() in c.
- some of TestProgram will using iostream.

Object-oriented programming and design

- Inheritance
    - the OOP, ISE, ENG class will inheritance from the Subject class.
- Polymorphism and Abstract class
    - since each specific subject will have their own title and their own Questions, I will write two pure virtual function(windows and practice) in Subject class, trate it to an abstract class.

Class Diagram



Class Describtion

the detile of each class will be commented in the program.

Testing Plan

Since the user input is uncertain, my testing will be perform manually.

Component test

for each Function in an class I will keep track of them then collect functions into its Class.

Unit test

for each Class I will write a sigle Testfile corrdinate to each of them.

System test

once a Unit test finish, I will collect them into final System test file and test whether it will works.

Schedule Plan

add code into my Makefile when the new Test file created.

Week 8

draw a bluepoint for the whole project, and delect some of features that is difficut to implement.

Break Week 1

Create a project prototype to achieve the final look of the project.

Break Week 2

implement the Iofile, Windows and Question class.

Week 9

Finish one of the Subject which is Oop, and make the whole program excutable.

Week 10

Finish ENG and ISE Subject, add all tested code into Main file also make it excutable.

Week 11

Since the time is limted, in this week, I only double check if my main program works fine and if time is enough i will add some user prompt and color in my final version.