Wayne Wee - Project Portfolio

PROJECT: iGrad

Overview

iGrad is a desktop module management and graduation tracking application. The user interacts with it using a CLI, and it has a GUI created with JavaFX, FXML and CSS.

Summary of contributions

- **Major enhancement**: added **the ability to add, edit and delete modules**
  - *What it does*: allows the user to add, edit and delete modules.
  - *Justification*: This feature is crucial in allowing the application to run as intended. A user can add a module with a module code, title and module credits. They can also tag the module with a semester.
  - *Highlights*: This feature was done mainly by refactoring existing code.
  - *Credits*: The original AB3 for laying down most of the code.
- **Major enhancement**: added **the ability to add modules based on information from NUSMods**
  - *What it does*: allows the user to add multiple modules at one time based on information from NUSMods.
  - *Justification*: This feature improves the product significantly because a user can make mistakes while typing in module information and getting the information directly from NUSMods solves this problem. In addition, the user is now able to add up to 10 modules at a time without having to specify more details other than the module code. This speeds things up significantly from having not only to key in modules one by one, but also to fill up all the details. Finally, this feature also allows to check for module prerequisites and preclusions that the user might not be aware of.
  - *Highlights*: The only HTTP request made in the whole application.
  - *Credits*: NUSMods (for making all the data public and free to use)
- **Major enhancement**: added **the ability to undo a previous command**
  - *What it does*: allows the user to undo a previous command.
  - *Justification*: This feature improves the product significantly because a user can make mistakes in commands and the app should provide a convenient way to rectify them.
  - *Highlights*: Had to choose between different implementations of this command.
- **Major enhancement**: added **the ability to filter modules**
  - *What it does*: allows the user to filter modules based on certain parameters.

    - *Justification*: This feature improves the product significantly because a user can face difficulty when attempting to look for a certain module.
    - *Highlights*: Added the option to chain parameters by different logical operators, allowing users maximum flexibility

- **Major enhancement**: added and designed **a clean and user-friendly Graphical User Interface (GUI)**
    - *What it does*: improves the user experience greatly
    - *Justification*: This feature improves the product significantly because no matter how well an application functions, nothing matters if the user experience is poor.
    - *Highlights*: Inclusion of an animal guide, displaying inspirational quotes and a progress bar.
    - *Credits*: Daryl for the first few iterations and implementations of the GUI, help panel and image designs.
- **Major enhancement**: added **the ability to export module data**
    - *What it does*: exports modules tagged with a semester to a .csv file titled study_plan.csv
    - *Justification*: This feature improves the product significantly because it saves the user a lot of time should they wish to copy the data somewhere else. The file generated by this command can be used to submit to school administration for exchange programme, leave of absence and internship applications.
    - *Highlights*: Only command to write to a .csv file.
- **Minor enhancement**: did the logic and interface to select an animal guide
- **Minor enhancement**: added a quote generator that displays a random quote each time a command is entered
- **Code contributed**: [Functional code] [Test code]
- **Other contributions**:
    - Project presentation:
        - Designed the theme used for the project presentation
    - Bug fixes:
        - Helped fix some bugs (#301, #269, #185, #158, #108, #96, #95)
        - Removed unnecessary fields (#284, https://github.com/AY1920S2-CS2103T-F09-3/main/pull/210[#210)
    - Community:
        - Reported bugs and suggestions for other teams in the class

Contributions to the User Guide

Given below are sections I contributed to the User Guide. They showcase my ability to write documentation targeting end-users.

Module Auto Add

Section by: Wayne

This command adds a module to the module list. The module information is taken from the NUSMods API and includes the `MODULE_CODE`, `MODULE_TITLE` and `MODULE_CREDITS`.

Table 1. Module Auto Add Quick Reference

Purpose	Adds a module from NUSMods
Syntax	`module add n/MODULE_CODE_A n/MODULE_CODE_B -a`
Example	`module add n/CS2103T n/CS2101 -a`

How it Works

IMPORTANT Do not miss out the `-a` flag

When you type in this command, a request is made to NUSMods API. More specifically, we visit the module page and ask for the information provided there. An example page can be found here.

NOTE We try to get the module information from the current academic year. However, this might not always be possible as NUS might not have released the module details. As a contingency, we retrieve the module information from the previous academic year.

In general, using this command speeds up the process of module addition greatly. However, as we have to make a request to an external webpage, the time taken to process the request might be considerably longer.

WARNING After issuing the command, the app might seem to freeze. Not to worry! It is merely processing your request. Please be patient when executing this command, especially when attempting to add a large number of modules.

This command also supports *batch processing* and you can add multiple modules, with the necessary information all filled in, by issuing a single command. In the case where adding a single module in a batch of modules raises an error, we skip that module and let you know what went wrong.

TIP You can add up to 10 modules at once! Try this: `module add n/CS1101 n/CS1231 n/CS2030 n/CS2040 n/CS2100 n/CS2103T n/CS2105 n/CS2106 n/CS3230 n/CS3219 -a`

Module Auto Add Error Reference lists the errors you might encounter after issuing this command:

Table 2. Module Auto Add Error Reference

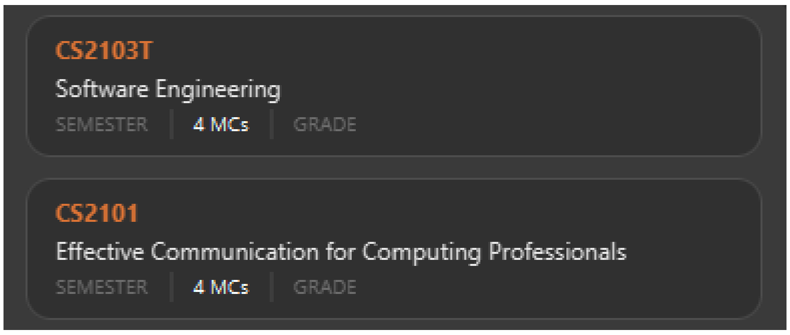
Name	Message	Explanation	Solution
Duplicate Module Error	Duplicate Detected	Sorry, this module already exists in the course book.	Delete the existing module in the list and try again
Module Not Found Error	Module Not Found	Sorry, I was unable to find this module. Is your internet down?	Use the command [ModuleAddCommand] instead
Module Overload Error	Module Overload Error	Please do not attempt to add more then 10 modules.	Divide the list of modules into smaller batches of size less than 10 and try again
Connection Error	Connection Error	Sorry, I was unable to find this module. Is your internet down?	Whilst all other commands work offline. You need an internet connection to issue this command. Go online before trying again

Tutorial

Follow these steps to get a clearer idea of how this command works

NOTE For this tutorial, actual values will be given instead of placeholders. Undo or Delete objects created from this tutorial by using the appropriate commands

1. Check that you do not have the modules with `MODULE_CODE` CS2103T and CS2101 in your list of modules
2. Type the following into the command box `module add n/CS2103T n/CS2101 -a` and press enter
3. Wait for up to 5 seconds
4. The message in the response box should change and you should see the following in the module panel


CS2103T
Software Engineering
SEMESTER | 4 MCs | GRADE

CS2101
Effective Communication for Computing Professionals
SEMESTER | 4 MCs | GRADE

Figure 1. Modules CS2103T and CS2101 successfully added from NUSMods

Additional Information

We are also able to retrieve information pertaining to a module’s prerequisites and preclusions. However, as our app can function as a module planner in addition to tracking your graduation requirements, we do not prevent you from adding modules that have unfulfilled prerequisites but instead, simply show a warning.

WARNING	As the prerequisites and preclusions from NUSMods do not follow any standard formatting, the warning messages shown might not always be accurate. This is due to a difficulty of interpreting the data given by NUSMods. This remains a BETA feature and we hope to upgrade it in time.

Contributions to the Developer Guide

Given below are sections I contributed to the Developer Guide. They showcase my ability to write technical documentation and the technical depth of my contributions to the project.

Module Add Auto

Section by: Wayne

Overview

The "automatic" addition of `modules` allows users to add up to 10 `modules` at once with all non-optional values filled in. This is done by making a HTTP GET request to the NUSMods API and fetching the module data given in a JSON format.

Implementation

The automatic filling in of `module` details on addition of a new `module` is facilitated by `NusModsRequester`. It creates a new instance of `GetRequestManager` which it relies on to make a request to the NUSMods API. Upon receiving a response, it creates an instance of JsonParsedModule.

`JsonParsedModule` parses the JSON object given in the response of the initial request and stores the following values:

Table 3. JsonParsedModule Table of Values

Value Type	Name	Example
String	title	Software Engineering
String	moduleCode	CS2103T
String	credits	4
String	prerequisite	CS2040C or (CS2030 and (CS2040 or its equivalent))
String	preclusion	CS2103, CS2103T, (CS2113T for CS2113), (CS2113 for CS2113T)

NOTE JsonParsedModule Table of Values illustrates the difficulty in parsing `prerequisites` and `preclusions` as the data provided is not in a standard format

The created `JsonParsedModule` object is then converted into a `Module` object, which is subsequently added to the `courseBook` via the method `addModule` of the `ModelManager`.

Module Add Auto Sequence Diagram illustrates this:

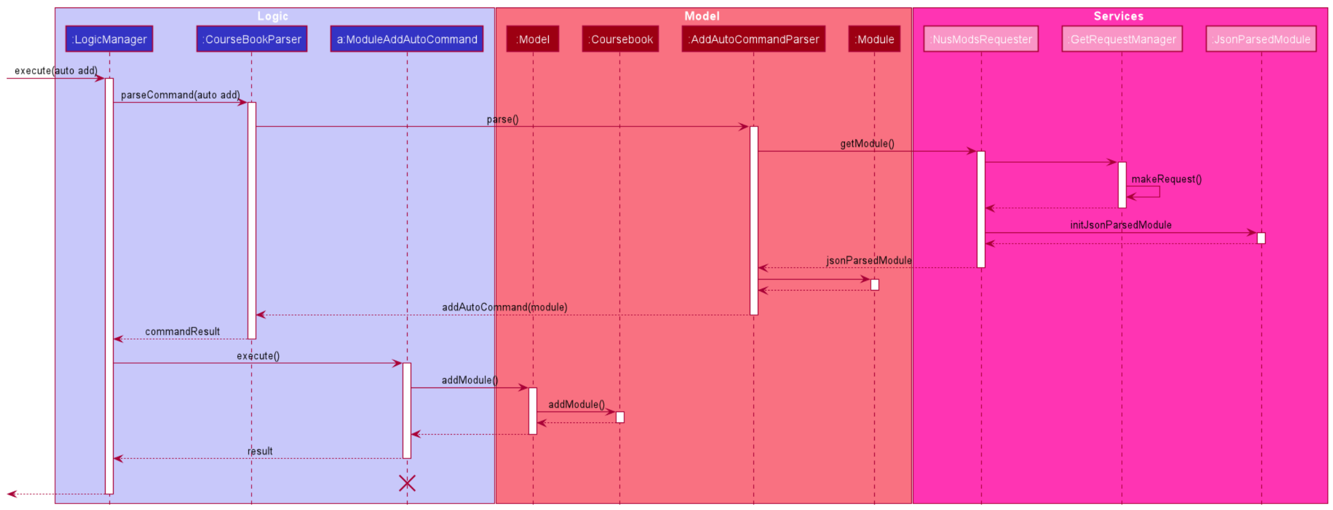


Figure 2. Module Add Auto Sequence Diagram

Design Considerations

Most of the design considerations arose as a result of having to make a network request.

A *secondary* module addition feature

As with all network requests, this feature might not work as intended in certain circumstances. Possible cases are:

1. High Network Congestion
2. Poor Network Connection
3. NUSMods Offline

In such situations, it becomes difficult or impossible to carry out the addition of `modules` using this command. Therefore, this feature was built on top of the primary `module add` feature, ensuring that the user could still manage to add `modules` even when faced with the issues as listed above.

The use case for this situation is as follows:

System: iGrad

Use case: UCM1 - Add module via NUSMods

Actor: User, NUSMods

MSS:

1. User wants to add a module.
2. iGrad requires user to specify the module codes.
3. User enters the module codes corresponding to the modules he wishes to add.
4. iGrad sends a request to NUSMods.
5. NUSMods responds with the requested data.

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6. iGrad adds the module to the module list.
7. User views the module in the module list.

Use case ends.

Extensions:

5a. NUSMods does not respond with the requested data.

5a1. User adds module manually

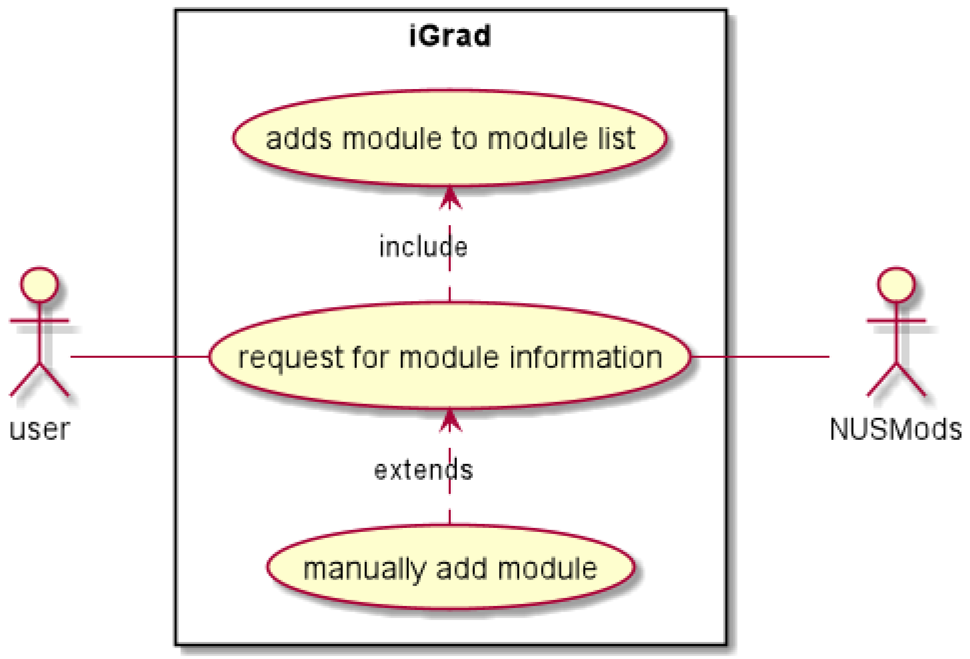

Figure 3. Module Auto Add Use Case Diagram