CS408 – Purdue University

ADVANCED SUBMISSION SYSTEM

REGRESSION AND INCREMENTAL TESTING LOG

Team 15

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CLASSIFICATION OF COMPONENTS

Module description

Configuration Manager

Module in charge of creating/updating/removing entries in configuration files that the system uses to keep track of courses and course information.

Inputs: Items to be added/updated in the global/course configuration file.

Output: A confirmation on implemented changes or a warning on invalid changes.

Course Manager

Module in charge of creating/updating/removing course directories and assignment directories

Inputs: Courses/Assignments to be created/deleted/updated

Output: A confirmation of whether or not the changes were successful

Submission Interface

The Submission User Interface allows students to easily submit files to assignments in their course.

Inputs: Course name, assignment name, and files, all selected using UI.

Output: A confirmation of whether or not the submission was successful.

Interface Component - Button

The Button component is used to create selectable buttons in the user interface.

Inputs: Button label and callback function.

Output: Callback function is called when button is pressed.

Interface Component - Picker

The Picker component allows for display of single or multi-selectable lists or trees. This is used frequently throughout the UI.

Inputs: Options list, maximum number of selected options, title.

Output: A list/tree UI widget that allows user interaction.

Interface Component – Input Manager

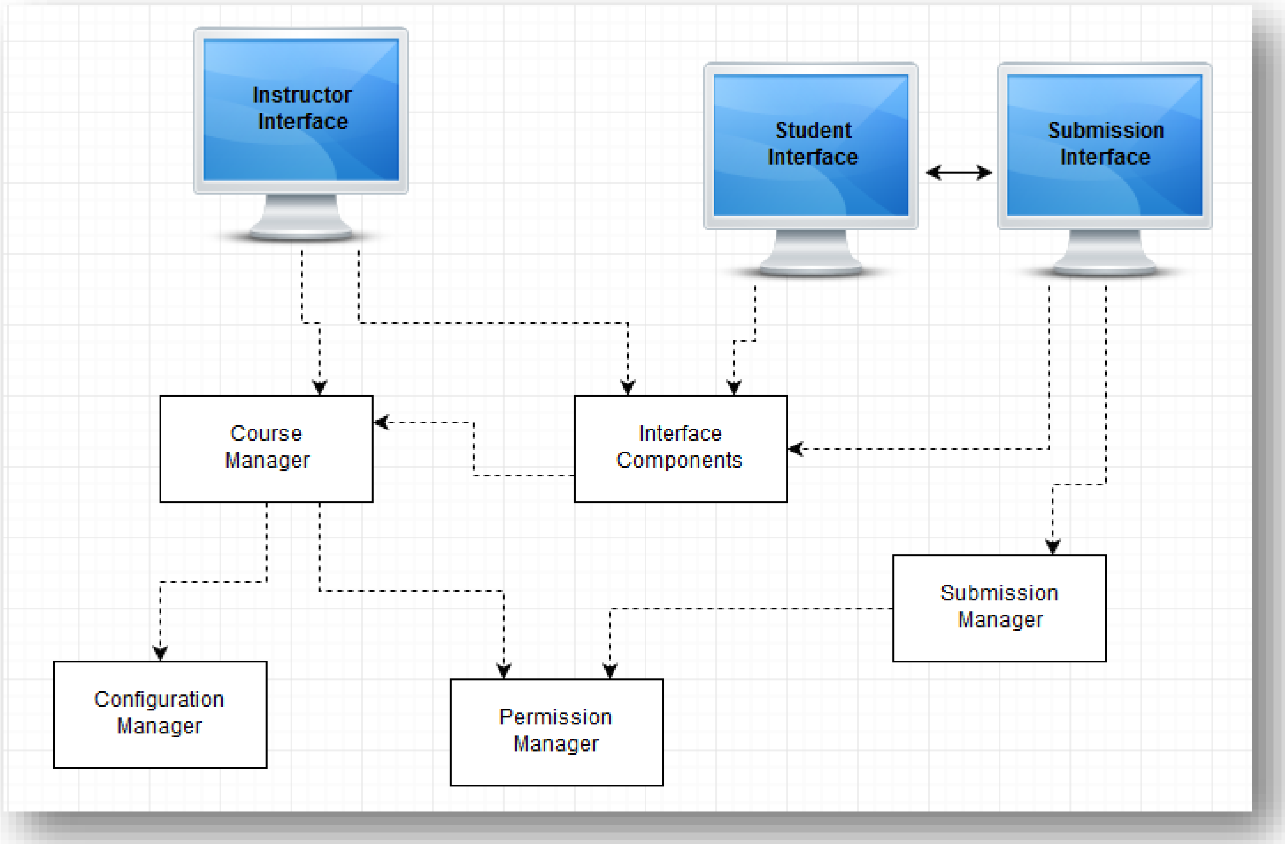
The Input Manager directs user input to specified components in the user interface, and allows the user to "tab" through components to select them.

Inputs: All user input passes through this component.

Output: If the user input is a "tab", the next component is marked as selected. Otherwise, all user input is passed to the selected component.

Incremental testing technique

Testing approach is bottom up where the modules below were implemented and tested, integrated with modules above them and tested again till the interfaces reflected the changes/bug-fixes.



Due to the bottom up approach, the team used drivers for the first phase of testing to verify the functionality of the terminal modules. Later, upper level modules were added as testing progressed with passing unit tests for each module on the way up.

INCREMENTAL AND REGRESSION TESTING

Automation

Configuration Manager

Module testing changed from a single main method with valid inputs to a testing class with invalid data checks using the `unittest` framework provided by the Python library. The tests included the regression tests used to verify that previously fixed bugs stay out of the system and confirm that bug fixes did not create new bugs that affect functionality.

Submission Interface

Submission Interface testing uses the built-in Python unittest libary. Tests are designed to cover edge cases and a variety of inputs.

Interface Components

Testing of interface components uses the built-in Python unittest libary. Tests are designed to cover edge cases and a variety of inputs, including different configurations and combinations of components.

Course Manager

Module testing was done from a single main method with valid inputs and messages displaying success or failure. The tests included incremental tests and regression tests to account for existing bugs and to verify that new bugs were not created by bug fixes.

Defect log

Module	**Configuration file manager**		
Defect No.	**Description**	**Severity**	**Solution**
1	Old get_config method was returning null objects in other methods using the function.	2	Get_config initially removed from program and later added a new version
2	removeProject not returning false when removal failed due to invalid filename	2	File presence verification added.
3	getCourseList from global config file did not return null object when an invalid file was passed	1	Null object returned

Module	**Course Manager**		
Defect No.	**Description**	**Severity**	**Solution**
1	An error is thrown when attempting to create a course that already exists	1	Put a check in to see if the course already exists
2	An error is thrown when attempting to delete a course that does not exist	1	Put a check in to see if the course exists
3	An error is thrown when attempting to create an assignment that already exists	1	(Fix in progress) Put a check to see if the assignment exists
4	An error is thrown when attempting to delete an assignment that does not exist	1	(Fix in progress) Put a check to see if the assignment exists

Module	**Button UI Component**		
Defect No.	**Description**	**Severity**	**Solution**
1	Program did not raise Exception when callback function was missing.	2	Button class now raises a MissingCallback exception when callback is missing.

Module	**Input Manager UI Component**		
Defect No.	**Description**	**Severity**	**Solution**
1	Class did not raise Exception when trying to select a control using an out-of-bounds index.	2	An IndexError exception is now raised when trying to select an out-of-bounds option.

Module	**Student Interface**		
Defect No.	**Description**	**Severity**	**Solution**
1	If default assignment is selected with out any input, "final-practice" is selected as opposed to	3	Fix is in progress

	"Lab1" which is highlighted.		