CS408
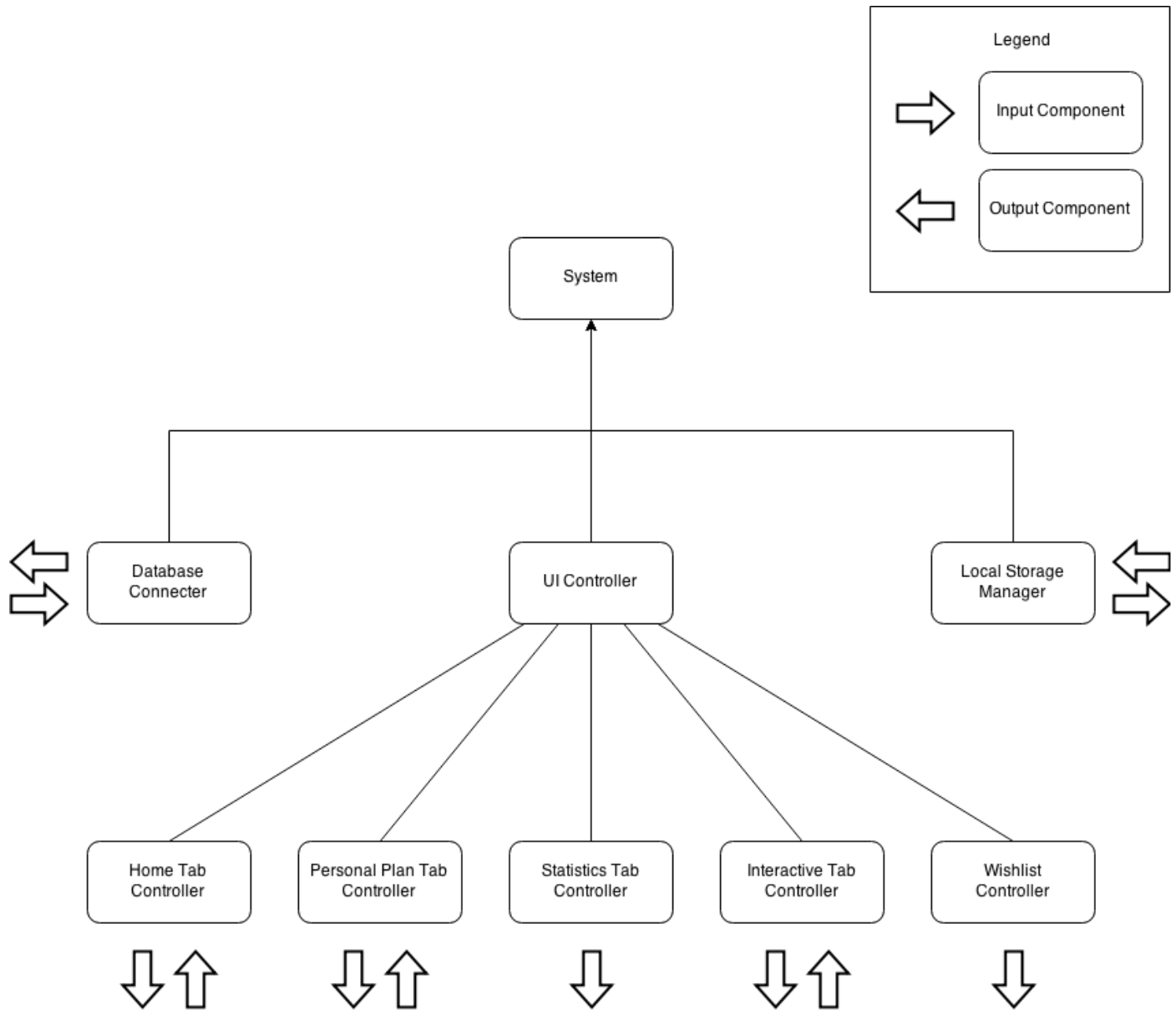
Fitness Tracker Pro

Incremental and Regression Testing

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Dependence Components:
Database Connector and Local Storage Manager depend on UI Controller.
Database connector is called by UI Controller to store and retrieve data.
Local Storage Manager is called by UI Controller to store and retrieve data.

We choose bottom-up testing. Since we write each components first, it will be easier,

efficient, and time-saving to test each components and fix all bugs. And also we can expose bugs as early as we can, before the program becomes a chaotic collection of bugs.

Incremental Testing

Defect#	Description	Severity	How To Correct	Component
1	Application should be able to read and write multiple objects	2	Loop all the objects in arraylist to write those objects one by one and read objects through a infinite loop	Local Storage Manager
2	Application should not crash after implementing function of reading from local file	1	Check whether the local file exists. If it doesn't exists, create an empty file	Local Storage Manager
3	Application should behave correctly when user tries to record extra activities.	3	Check the return value from Dialog, if it equals to null, do nothing.	UI Controller
4	Application should catch IOException when it does file I/O operations	1	Catch IOException	Local Storage Manager
5	Application should throw errors when user input invalid value into textbox	1	Limit the type of input to only number.	Home Tab Controller
6	Table of plan and cell of table should not be allowed to change size	3	set table size and cell size fixed	Plan Tab Controller
7	The words buttons on dialog box is not readable on non-English computer.	1	Change the internal encoding to UTF-8	UI Controller
8	Same activities should not be duplicated in same day under same plan when being dragged	3	Add code to check if activity exists in day activity list	Personal Plan Tab Controller

| 9 | Users are not allowed to choose unit of a fitness activity when add it to a plan | 2 | Remove the drop-down box of unit of adding-to-plan dialog | Home Tab Controller |
| 10 | When we drag an activity from one column to another column, it should move there instead of being deleted | 1 | Modify the drag listener, judge for the final destination of a drag operation | Personal Plan Tab Controller |

Regression Testing

Defect#	Description	Severity	How To Correct
1	Application should not crash when reading two objects, after fixing Local Storage Manager Component(defect 1)	1	Use arraylist to write multiple objects and read the arraylist
2	After fixing Local Storage Manager Component(defect 2) in incremental testing, the data return by read function do not display.	2	Cast every object in arraylist to the type that are needed
3	After fixing Local Storage Manager Component(defect 4) in incremental testing, application should not crash when trying to read a non-exist file	1	Catch null pointer exception
4	After make FileIO class catch all Exception(defect 4), it cannot send instance of system-defined class that is not serializable	1	Make subclass for all system-defined class that is not serializable