System Design Specification

Empty Lecture Room Project

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1. **System Architecture**
2. Major modules

* Android base application design
* Timetable database (and preset queries)
* User timetable display interface
* Empty room category search interface
* Recommendation interface
* Results show interface

1. Module functionality

2.1) Android application background

* Basic interface the user interacts with.
* Slide by slide option selection
* Most outer layer of application

2.2) Timetable Database (preset queries)

* Manage the database input within the application
* Not reachable by user
* On initial execution, search and input database based on web search
* May be re-initialized on timetable update
* Application interacts with database through preset queries on user request

2.3) User Timetable Display Interface

* Interface (slide) that displays the user’s timetable
* Buttons exists for edit/delete all
* Always first screen of execution (input or not)

2.3 – Extended)

* Secondary interface specified to edit user timetable
* Spinner menu selection for inserting timetable

2.4) Empty Room Category Search

* Second interface which shows options for searching rooms
* Checkbox category interface which lets the user select the categories needed
* Several categories may be selected for searching rooms
* Search button located for searching
* On button hit, moves to Results Show interface

2.5) Recommendation interface

* Interface for recommendation search
* Button is essential for executing recommendation
* Moves to Results Show interface

2.6) Result Show interface

* Reachable by search functions in empty room search, recommendation
* Show all results available through scrollable interface
* Return to previous interface with button/android back button
* Preset query for recommendation. Category

1. Alternatives

3.1) Android application background

* May not be slide interface
* Slide interface manages all interfaces in one activity, which may be to heavy
* LinearLayout with buttons to access interfaces may be chosen

3.2) User Timetable Display Interface

* No alternatives yet discussed

3.3) Empty Room Category Search

* More categories may be added through discussion and customer collaboration

3.4) Recommendation interface

* One button interface design may look poor and empty
* Some data such as current time, lecture etc. may be added

3.5) Results show interface

* Simple scroll interface to show all possibles by location

1. Process

1) Risk Assessment

* Special cases where some majors does not give timetable information
* No choice but remove from database
* Interface ratio not in accordance
* Extensive prototyping/testing to prevent risk before release

2) Project Schedule

* Described in Requirements Specification
* Schedule should be more flexible with single deadline

3) Team Structure

* Team leader, requirements specifier, customer contact (박지호)
* Main developer (김남웅)
* Test team (박로빈, 박승수)
* Database design (김재범)
* Android Application design and documentation (양태성)

4) Test

4.1) Test plan

* Test tool – JUnit
* Test module list
  + User Timetable Display Interface
  + Empty Room Category search
  + Recommendation interface
  + Results Show interface

4.2) Test method

* One code at once
* Independent test for all module
* If it has modification and updating requirements for code ended testing from customer tester should test again (required code shouldn’t have error after re-test)
* If error is verified testing team transmit error contents to developers in detail and should modify and should re-test before next develop

5) Documentation Plan

* This documentation includes the detailed development contents of Empty Lecture Room Finding system
* It is assumed that documentation is written by all team members
* Documentation tools – Microsoft Word 2010