**FPT ACADEMY INTERNATIONAL**



**FPT – AP TECH COMPUTER EDUCATION**

TechWiz 3

Khareer FPT

Smart Study

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## Khareer FPT Smart Study

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# Definition of the Problem

Education is a primary necessity and for Parents / Guardians to be updated about their wards, progress is even more important. Students who fail in exams might not reveal their marks to their Parents / Guardians because of fear. Teachers too are overloaded with work, because of which it becomes difficult to remember each child’s academic progress. Also, students too must be kept aware about their score progress and marks required for passing External Exams. A mobile application to track and update all these is a solution.

# Requirement Analysis

Mobile application:

Teacher, students and their parents are the primary users of mobile apps, …  
Users with mentioned roles are given appropriate authorization to view and interact with application

REQ-01 Home Page – display menus for various operations incl sign in and register.

REQ-02 Register as one of three roles (Teacher / Student / Parent), validation form.

REQ-03 Login successfully with name display at top right corner & sign out function.

REQ-04 Feedback allows all users provide feedback about the application

REQ-05 Contact Us menu enable users to contact creators of the app.

For Teacher

REQ-06 Marking system by Teacher via form for internal tests

REQ-07 Update system by Teacher via form for gradual progress

REQ-08 Add study resource by teacher to add links to external sites, videos

REQ-09 Revision class update option, accept date and times for extra classes

For Student

REQ-10 View scored marks conducted by teachers.

REQ-11 View academic progress in form of table data or progress bars.

REQ-12 Study resource menu option, display table contain links to external sites, videos

REQ-13 All key data shown on mobile screens / pages comes from relevant database tables and not be hardcoded.

# Design Phase

Design phase involves the preparation of the blueprint of the proposed system.

### Designing the GUI Standards

Multiple Web pages may be created for implementing the project and linked to each other. Each of these Web pages or forms should have a consistent look with respect to appearance and theme used. The font styles, color of the labels, design and appearance of the command buttons, the appearance of header and footer, and the design and size of controls, such as check boxes or text boxes should be consistent through all the pages.

Program are designed with several nonfunctional requirements in mind include:

User-friendly: easy to navigate and understand, clear menus and other elements.

Accessible: clear and legible fonts, user-interface elements

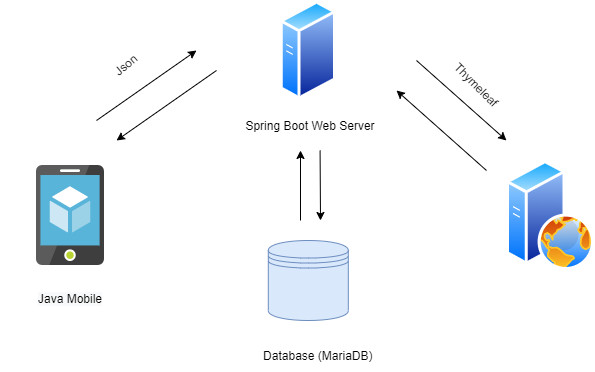
Security: adequate security measures such as authentication, only registered and logged in users can access

Mobile device should be useable in both vertical and horizontal without layout and control issues.

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# Architecture of Website

Figure 1.1 displays the application architecture.



### Figure 1.1: Application Architecture

The application was decided to be developed in Spring boot web application with integrated API Controllers. MySQL server was chosen as the database. Java Android was the main platform of mobile application.

By having a dedicate Web application in addition to mobile application, teacher and admin will able to manage the system easier than solely relying on mobile app.

# Evaluation/Testing

This is the most crucial phase where each unit is tested for its functionality. Test data is used to check if the module is able to process it without causing any errors. Test data may be live data extracted from existing records in the system or dummy data. Then, the individual tested modules are integrated and tested as a whole through its various paths.

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# Project Tracking and Monitoring Activities

Project are given with the total amount of time for completion within five days. All members are required to attend FPT Aptech institute dailies to collaborate and tracking progress internally.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Ref. No.:**  **Smart Study System** | | **Project Title:** | **Activity Plan** **Prepared** **By:** | **Date of Preparation of Activity Plan:** | | | |
| **St.No.** | **Task** | **Actual Start** **Date** | **Actual** **Days** | **Team** **Mate** **Names** | **Status** |
| 1 | Design | Smart Study System | Nguyen Ngoc Thien | 10/08/2022 | 5 | Le Thanh Nhan | Completed |
| 2 | Analysis | 10/08/2022 | 5 | Le Thanh Nhan | Completed |
| 3 | Coding | 10/08/2022 | 5 | Thien Nguyen  Le Thanh Nhan, Le Huu Tam | Completed |
| 4 | Testing | 10/08/2022 | 5 | All member | Completed |

## Khareer FPT Smart Study

|  |  |  |
| --- | --- | --- |
| **Design Plan:** | **Document Name: Customer Acceptance Criteria (CRS)** | **SWD/Form No. 2A** |
| **Effective Date:** | **Version: 1** | **Page No.** |

Client/Project Undertaken:

### List of inputs to the system

* Data input to the system include personal details for account, semester, classroom, course subjects, document links, exam and marks.
* Keyword for each search function

1. **List of outputs expected from the system**

* Students and teachers are able to view course subject, class details, study resources, exam and marks using mobile app after successfully login.
* Push notification system alert users of functioning such as request for revision class

1. **Overview of Processes involved in the system**

Users input data into the mobile application, the data is transferred via JSON string model to Spring boot web application with API controllers, depend on POST request to edit, create or delete or GET request to view data. The controllers will process the data taken from MySQL database and send back to mobile application.

1. **Hardware and Software required for implementing the project**

Mobile device with:

Android OS

Desktop device with:

Intel Core i5 processor or higher

8GB of RAM or higher

HTML5 and JavaScript supporting browser

Bootstrap 3, jQuery

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|  | **Prepared By (Student)** |
| **Date 14-08-2022** | Nguyen Ngoc Thien |

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| --- | --- | --- |
| **Design Plan:** | **Document Name: CRS** | **SWD/Form No. 2B** |
| **Effective Date:** | **Version: 1** | **Page No.** |

|  |  |
| --- | --- |
| **S.No.** | **Customer’s Acceptance Criteria** |
| 1. | Safe to use – zero malicious downloads or unnecessary file downloads |
| 2. | Accessible – clear and legible fonts, user - interface elements, and navigation elements |
| 3. | User-friendly – Easy to navigate with clear menus |
| 4. | Operability – system running in reliable efficient manner |
| 5. | Performance – demonstrate high value of speed and throughput, fast to load and smooth |
| 6. | Security – authentication & authorization |
| 7. | Capacity – support large number of users |
| 8. | Availability – Running 24/7 with minimum down time |
| 9. | Compatibility – compatible with latest browser |
| 10. | And meet all of the functional requirements |

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|  | **Prepared By (Student)** |  |
| **Date 14-Aug-2022** | Nguyen Ngoc Thien |  |

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| --- | --- | --- |
| **Design Plan:** | **Document Name: Project Plan** | **SWD/Form No. 3** |
| **Effective Date:** | **Version: 1** | **Page No.** |

**Project Plan**

1. **Project Details**
   * **Name of the Client: TechWiz 3 Aptech International**
   * **Date of the Project Plan: 10-Aug-2022**
   * **Project Vision/Objectives:**

(Define the project vision/objectives as stated by the client)

### Scope:

The project’s scope is to cover general academic or training institution with limited services. Its structure design was base on FPT Aptech in Vietnam.

### Our understanding of the client organization

(Give the range of services, functions, overview of processes, and so on)

### Project Organization with Responsibilities and Authorities

(Give the name of Project team members their roles and responsibilities)

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### Project Initiation/Requirement Documents

(Information required from the client as inputs regarding his/her system; could be the information about the services, processes, and so on)

### Deliverables

This project should be delivered to the client along with user manual for end users, a maintenance manual for technical set up and maintaining the project. Software is packaged in APK for mobile android. A java package for web application.

### Project Dependencies

This project requires intensive working hours committed by all members. Therefore, it relies hugely upon stable internet connection and electricity system running to ensure non interruption to the process.

### Major Project Milestones

11-Aug-2022: Complete design for web application and database structure

12-Aug-2022: Complete design for mobile application.

13-Aug-2022: Start writing API to connect web app server and mobile device

15-Aug-2022: Complete and submit the project

## Khareer FPT Smart Study

### Quality Plan

* + **Review Activities**

Daily meeting is taken between all team members. All technical issues should be brought up to the group as soon as possible as these contingencies consumed a lot of time which impact the speed of project completion.

* + **Testing Activities**

All team member is expected to test basic functions and compile working code before integrate into main branch.

A thorough final test was taken before submit to the TechWiz. Test was done on non-developer device.

* + **Backup and Recovery Strategies**

Storage location: Git hub repository and local computer from each team member.

Should any disaster incident occur, a copy of latest functioning code base is taken from Git hub repository history or from team member hard drive.

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|  | **Prepared By (Student)** |  |
| **Date 14-Aug-2022** | Nguyen Ngoc Thien |  |

## Project Report Template

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| --- | --- | --- |
| **Design Plan:** | **Document Name: GUI Standard Document** | **SWD/Form No. 4** |
| **Effective Date:** | **Version: 1** | **Page No.** |

### Document Design

|  |  |
| --- | --- |
| **Property** | **Value** |
| Document Theme and Color Scheme | #FFFFFF |
| Form-Background Color | #178e72 |
| Title-Font Size | Font size are set in DP |
| Title-Font Color | Black and white |
| Title-Font Style | Roboto |
| Title-Alignment | Center |
| Background color of Controls on the form | #FFFFFF or #178e72 |
| Foreground color of Controls on the form | #29303E |
| Control Caption-  Font Size | Font size are set in DP |
| Control Caption- Font Color | White |
| Control Caption- Font Style | Roboto |
| Control caption and controls-Alignment | Below image, center |
| Command button-Alignment | Cover widget |

|  |  |  |
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|  | **Prepared By (Student)** |  |
| **Date 14-Aug-2022** | Nguyen Ngoc Thien |  |

Project Report Template

|  |  |  |
| --- | --- | --- |
| **Design Plan:** | **Document Name: Interface Design Document** | **SWD/Form No. 5** |
| **Effective Date:** | **Version: 1** | **Page No.** |

**1. List of forms to be created**

|  |  |  |
| --- | --- | --- |
| **Page/Form Name** | **Description** | **Controls on the Page/Form** |
| Register form | This form is made for mobile app user to register account on the system | Input text and submit button |
| Login form | This form is for mobile app user to authenticate with the system | Input text and submit button |
| Create and Update form for teacher | These forms are made for teachers to create test and adding marks to student, create and update study resource | Input text, date, radio, select and various type of controls along submit button |
| Create, Update form for web application admin | These forms are made for admin to control the database system | Input text, date, radio, select and various type of controls along submit button |

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|  | **Prepared By (Student)** |  |
| **Date 14-Aug-2022** | Nguyen Ngoc Thien |  |

Project Report Template

|  |  |  |
| --- | --- | --- |
| **Design Plan:** | **Document Name: Interface Design Document** | **SWD/Form No. 6** |
| **Effective Date:** | **Version: 1** | **Page No.** |

1. **Process/Module Name**

Interface design were created as prototype.

1. **Process/Module Description and Details**

Web application and Mobile application was designed using Figma, a preview for each one is accessible with the following links:

Mobile:

https://www.figma.com/file/uKjalNoY9MUDExKR8OFiFL/KSS-Mobille  
  
  
Web app:

https://www.figma.com/file/JlRsrubKPRJwK7hbatsfrT/KSS

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|  | **Prepared By (Student)** |  |
| **Date 10-Aug-2022** | Le Nguyen Thanh Nhan |  |

Project Report Template

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| --- | --- | --- |
| **Design Plan:** | **Document Name: Task Sheet** | **SWD/Form No. 7** |
| **Effective Date:** | **Version: 1** | **Page No.** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Date:** | **Project Plan/ Milestone** | **Work Specification** | **Status of the Activity** | **Remarks** | **Responsibility** |
| 10-08-2022 | Complete design database and web application |  | Completed |  | Le Nguyen Thanh Nhan |
| 10-08-2022 | Set up code base structure and framework |  | Completed |  | Nguyen Ngoc Thien |
| 11-08-2022 | Complete design mobile application |  | Completed |  | Le Nguyen Thanh Nhan |
| 14-08-2022 | Integrate modules |  | Completed |  | All team members |
| 14-08-2022 | Prepare project documents |  | Completed |  | Nguyen Ngoc Thien |
| 15-08-2022 | Package project and submit |  | Completed |  | All team member |

|  |  |  |
| --- | --- | --- |
|  | **Prepared By (Student)** |  |
| **Date 14-Aug-2022** | Nguyen Ngoc Thien |  |

Project Report Template

**Final Check List**

|  |  |  |
| --- | --- | --- |
| **Design Plan:** | **Document Name: Final Check List** | **SWD/Form No. 8** |
| **Effective Date:** | **Version: 1** | **Page No.** |

|  |  |  |
| --- | --- | --- |
| **S.No** | **Aspect Tested** | **Suggestion/Remarks** |
| 1. | Have all the modules been properly integrated and are they completely functional? | All modules and function are properly integrated |
| 2. | Does each unit meet its objective and purpose? Are all the validations happening properly? | Objectives and purpose are met. Validation requires in depth checking |
| 4. | Is the GUI design consistent all over? | GUI design is consistent |
| 5. | Are the codes working as per specification? | Specification was adjusted |
| 6. | Does the application’s functionality resolve the client  problem, and satisfy his/her needs completely? | Application functionality resolve the client problem |
| 7. | Have the hardware and software been correctly chosen? | Sufficient to run the application |
| 8. | Additional features and utilities that give value addition to the entire project. | QR scanning, 1 way account register speed up process |

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|  | **Prepared By (Student)** |  |
| **Date** | Nguyen Ngoc Thien |  |

## Project Report Template

# Source Code

Source Code are divided into two parts:  
  
Part 1: A built package for java spring boot initializr for the client to run web application.  
Part 2: An APK package for java android for the client to run on Android mobile device.

A MySQL script attached for the client to run the application using the designed database structure.

Complete source code is accessible publicly via the following link:

https://github.com/Zalnlol/Techwiz3.git

# User Guide

### System Requirements:

* 1. **Host the Site:**