

**EnglishVocabApp**

**Software Requirement Specification**

Lưu Bảo Anh - SE05203

– Hanoi, Sept 2022 –

**Table of Contents**

[**1 Overall Description**](#_30j0zll) **4**

[1.1 Introduction](#_1fob9te) 4

[1.2 Feature Descriptions](#_3znysh7) 5

[1.2.1 Screen Functions](#_2et92p0) 5

[1.2.2 Non-Screen Functions](#_tyjcwt) 5

[1.2.3 Common Requirements](#_1i0gyfij0yn6) 5

[1.3 Screen Description](#_1t3h5sf) 6

[1.3.1 Screen Flow](#_4d34og8) 6

[1.3.2 Screen Details](#_2s8eyo1) 6

[1.3.3 User Authorization](#_e2omzbmkovt1) 6

[**2 System Features**](#_ghmgse59ps0f) **7**

[2.0 Home Screen](#_2pwym15qo9pl) 7

[2.1 Note List](#_up9gg8chtho) 8

[2.1.1 Screen Design](#_bo055x9tm5) 8

[2.1.2 Use case Specification](#_c0j5xn14fk55) 8

[2.2 Note Details](#_72uxd6gs4hc0) 9

[2.2.1 Screen Design](#_2cd7k7iicb5h) 9

[2.2.2. Use case Specification](#_1t0c417xjfq0) 10

[2.3 Edit/Add Note](#_pvi6stt66tjk) 11

[2.3.1 Screen Design](#_8bg1afnd4zaf) 11

[2.3.2 Use case Specification](#_dr0dgkk36g1p) 11

[2.4 Search Note](#_yy6fu6amvt0q) 12

[2.4.1 Screen Design](#_nrqvvnva4nbp) 12

[2.4.2 Use case Specification](#_ra0wvs9hcj1u) 12

[2.5 Delete Note](#_rn178450s9hc) 12

[2.5.1 Screen Design](#_lhkmua5yfjn7) 12

[2.5.2 Use case Specification](#_kah5h5ou6oby) 12

[2.6 Play Quiz](#_z7t9221xesj8) 13

[2.6.1 Screen Design](#_3f2t5q3tyey8) 13

[2.6.2 Use case Specification](#_ggxhmrcvb9cf) 16

[2.7 Export Quiz Result To Note](#_f904lz14ej0f) 18

[2.7.1 Screen Design](#_js59olknb3qs) 18

[2.7.2 Use case Specification](#_duiahbkiwjl0) 18

[2.8 Review Quiz](#_4kxjuoj106h5) 19

[2.8.1 Screen Design](#_xll7scvwipes) 19

[2.8.2 Use case Specification](#_4u0eyrtjalrc) 20

[2.9 View Statistics](#_jvniaznxf43h) 21

[2.9.1 Screen Design](#_e85qr7yomq8y) 21

[2.9.2 Use case Specification](#_gh9bmkc25bwo) 21

[2.10 Search Dictionary](#_bhblzxhfyvk7) 23

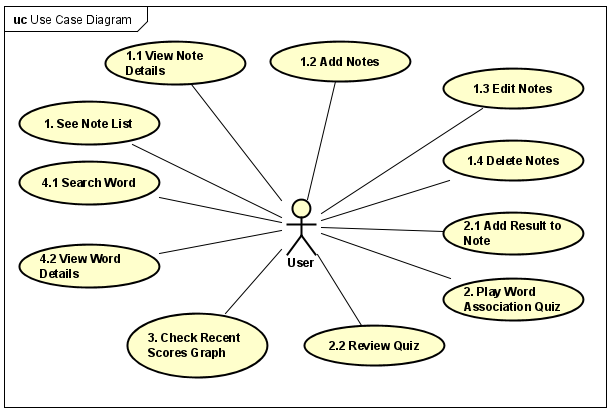
[2.10.1 Screen Design](#_2dypqg2skvfd) 23

[2.10.2 Use case Specification](#_x59ijhjrpyxh) 24

# **1 Overall Description**

## **1.1 Introduction**

The LearnEnglishApp provides Users with different tools to help them learn and test their English vocabulary, including notes, dictionary, English vocabulary quizzes & graph visualising Users’ performance over time.



## **1.2 Feature Descriptions**

### **1.2.1 Screen Functions**

| **#** | **Feature** | **System Function** | **Description** |
| --- | --- | --- | --- |
| 1 | Note | Add New Note | Allow User to add Note |
| 2 |  | Edit Note | Allow User to edit Note |
| 3 |  | Delete Note | Allow User to delete Note |
| 4 |  | Show Note List | Show created Notes |
| 5 |  | Show Note Details | Show clicked-on Note’s details |
| 6 | Quiz | Quiz Setting | Allow User to choose the settings of Quiz |
| 7 |  | Show Quiz Questions | Allow User to play picked Quiz |
| 8 |  | After Quiz Result | Show Quiz Result |
| 9 |  | Export Quiz to Note | Show Add Note Screen with Quizzes' contents |
| 10 | Statistics | Show Quiz Statistics | Show User’s past Quiz performance |
| 11 | Dictionary | Search Word | Search for Word |

### **1.2.2 Non-Screen Functions**

| **#** | **Feature** | **System Function** | **Description** |
| --- | --- | --- | --- |
| 1 | Quiz | Save Result to SQLite | Save Quiz Result to SQLite as Graph’s data |

### 

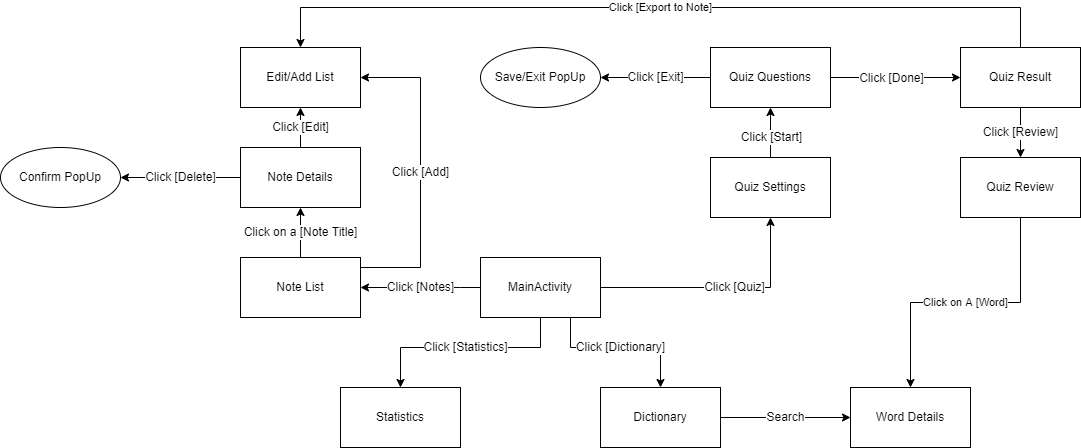
### **1.2.3 Common Requirements**

EnglishVocabApp shall be implemented with:

* Android Studio 2022.3.1 with plugin Lombok 3.4.1
* Android API 33 (minimum 30).
* Java SE 11
* ButterKnife library 10.0.0
* Lombok library 1.18.12
* Retrofit2 library 2.9.0
* Room library 2.4.3

## **1.3 Screen Description**

### **1.3.1 Screen Flow**



### **1.3.2 Screen Details**

| **#** | **Feature** | **Screen** | **Description** |
| --- | --- | --- | --- |
| 0 | Menu | Main Screen | -Has 4 Button (Note, Quiz, Statistics, Dictionary) |
| 1 | Note | Edit/Add Note | -Has 2 EditText (Title, Content), 2 Button (Cancel, Save) |
| 2 |  | Note List | -Has RecyclerView contains Notes’ Titles, 2 Button (Return, Add) |
| 3 |  | Delete Confirm PopUp | -Yes/No Dialog |
| 4 |  | Note Details | -Has 2 TextView (Title, Content), 3 Button (Return, Delete, Edit) |
| 5 | Quiz | Quiz Settings | -Has 2 Spinner (Level, Length), 2 Button (Start + Return) |
| 6 |  | Quiz Questions | -Has 1 EditText (QuestionNo), 3 TextView (Question, QuestionContent, QuestionTotal), 6 Button (PrevQues, NextQues, Answer1, Answer2, Done, Exit) |
| 7 |  | Save/Exit PopUp | -Yes/No/Cancel Dialog |
| 8 |  | Quiz Result | -Has 1 TextView (Score), 3 Button (Return, Review, Export to Note) |
| 9 |  | Quiz Review | -Has 1 EditText (QuestionNo), 3 TextView (Question, QuestionContent, QuestionTotal), 5 Button (PrevQues, NextQues, Answer1, Answer2, Exit) |
| 10 | Statistics | Statistics | -Has Graphs |
| 11 | Dictionary | Dictionary | -Has 1 EditText (Search), 3 RecyclerView (Results) |

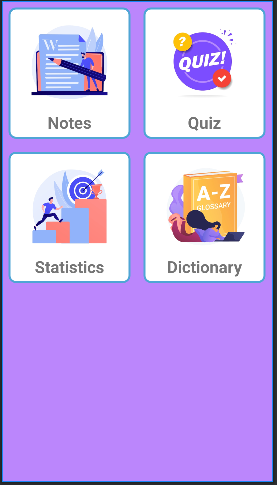
### 

### **1.3.3 User Authorization**

The application is for a single user, as such, there’s no authentication & authorization required.

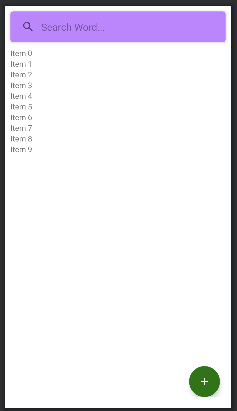
# **2 System Features**

## **2.0 Home Screen**



## **2.1 Note List**

### **2.1.1 Screen Design**



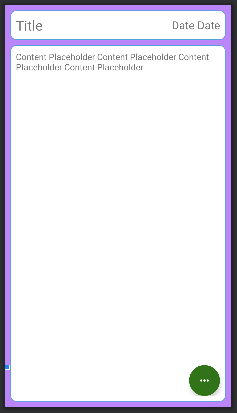
| **#** | **Field Name** | **Type** | **Mandatory** | **Max Length** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | Search note | SearchView |  |  | Input notes which user want to find |
| 2 | Title | TextView |  |  | note’s title |
| 3 | Date | TextView |  |  | note’s date |
| 4 | Home | Button |  |  | Exit back to Home Screen |
| 5 | Add | Button |  |  | Add new Note |

### **2.1.2 Use case Specification**

| **Use Case ID** | | **UC01** | **Use Case Name** | | **Note List** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **28/09/2022** |
| **Actor** | | User | | | | |
| **Description** | | The function allows a user to view created Notes | | | | |
| **Precondition** | | PRE-01:  PRE-02: | | | | |
| **Trigger** | | TRG-01: User clicks on [Note] in Home screen | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| *1* | App | Fetch Notes from DB then display in RecyclerView with:  -Note title  -Note created date | | | | |
|  |  |  | | | | |

## **2.2 Note Details**

### **2.2.1 Screen Design**



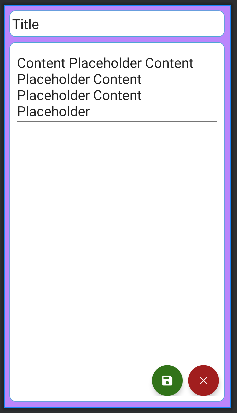
| **#** | **Field Name** | **Type** | **Mandatory** | **Max Length** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | Title | TextView |  |  | note’s title |
| 2 | Date | TextView |  |  | note’s date |
| 3 | content | TextView |  |  | note’s content |
| 4 | Edit Button | Button |  |  | Edit Note |
| 5 | Delete Button | Button |  |  | Delete Note |
| 6 |  |  |  |  |  |

### **2.2.2. Use case Specification**

| **Use Case ID** | | **UC02** | **Use Case Name** | | **Note Details** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **28/09/2022** |
| **Actor** | | User | | | | |
| **Description** | | The function allows a user to view created Note’s details | | | | |
| **Precondition** | | PRE-01:  PRE-02: | | | | |
| **Trigger** | | TRG-01: User clicks on a [Note] in Note List screen | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| *1* | App | Fetch Note from DB then display:  -Note title  -Note created date  -Note contents | | | | |
|  |  |  | | | | |

## **2.3 Edit/Add Note**

### **2.3.1 Screen Design**



| **#** | **Field Name** | **Type** | **Mandatory** | **Max Length** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | Note Title | EditText | Yes |  | Input title of note |
| 2 | Note Content | EditText |  |  | Input content of note |
| 3 | Save | Button |  |  | Save Edit/Add Note |
| 4 | Cancel | Button |  |  | Cancel Save/Edit |
| 5 |  |  |  |  |  |

### **2.3.2 Use case Specification**

| **Use Case ID** | | **UC03** | **Use Case Name** | | **Add/Edit Note** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **27/09/2022** |
| **Actor** | | User | | | | |
| **Description** | | The function allows a user to be able to add/edit notes in the software when the user has selected the option [Add] or [Edit] in other Note screens | | | | |
| **Precondition** | | PRE-01: | | | | |
| **Trigger** | | TRG-01: | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| *1* | User | Click [Add] in Note List, [Edit] in Note Details or [Export to Note] in Quiz Screen | | | | |
| *2* | App | Display Login screen with the following fields:  - Note Title  - Note Contents . . | | | | |
| *3* | User | Enter information about Note, then click [Save] | | | | |
| *4* | App | App save changes into the DB | | | | |
|  |  |  | | | | |

**Alternative flows**

## **2.4 Search Note**

### **2.4.1 Screen Design**

Refer to Note List UseCase

### **2.4.2 Use case Specification**

| **Use Case ID** | | **UC04** | **Use Case Name** | | **Search Notes** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **27/09/2022** |
| **Actor** | | User | | | | |
| **Description** | | The function allows a user to search notes in the software | | | | |
| **Precondition** | | PRE-01: | | | | |
| **Trigger** | | TRG-01: | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| *1* | User | Type key User want to find and then press Enter | | | | |
| *2* | EVA | Filter out Notes that doesn’t match the search key | | | | |

## **2.5 Delete Note**

### **2.5.1 Screen Design**

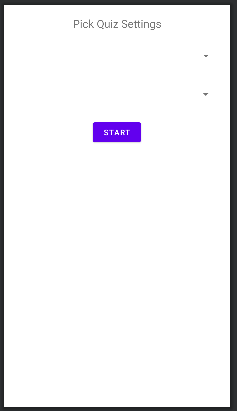
Refer to Note Detail UseCase

### **2.5.2 Use case Specification**

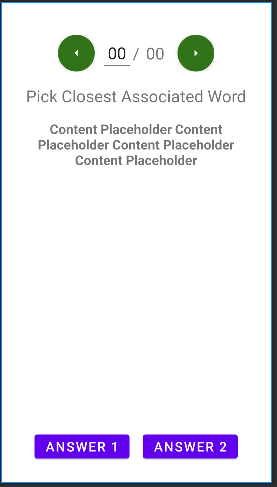
| **Use Case ID** | | **UC05** | **Use Case Name** | | **Delete Note** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **27/09/2022** |
| **Actor** | | User | | | | |
| **Description** | | The function allows a user to delete Notes | | | | |
| **Precondition** | | PRE-01: | | | | |
| **Trigger** | | TRG-01: | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| *1* | User | Click [Delete] in Note Detail Screen | | | | |
| *2* | EVA | Show Confirm Dialog | | | | |
| *3* | User | Click [Yes] | | | | |
| *4* | EVA | Note is deleted from DB & move user back to Note List Screen | | | | |

## **2.6 Play Quiz**

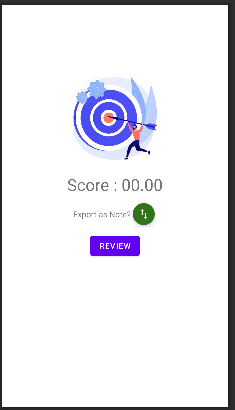
### **2.6.1 Screen Design**



| **#** | **Field Name** | **Type** | **Mandatory** | **Max Length** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | spinner\_level | Spinner | Yes | 20 | Pick Quiz Level, defaultValue = ‘Pick Quiz Level’ |
| 2 | spinner\_length | Spinner |  |  | Pick Quiz Length, defaultValue = ‘Pick Quiz Length’ |
| 3 | Start | Button |  |  | Start Quiz |
|  |  |  |  |  |  |



| **#** | **Field Name** | **Type** | **Mandatory** | **Max Length** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | Exit | Menu option |  |  | show pop-up whether to Save Quiz progress when exiting |
| 2 | fab\_prev | FloatingActionButton |  |  | Move to previous question |
| 3 | fab\_next | FloatingActionButton |  |  | Move to next question |
| 4 | txt\_questionNo | EditText |  | 2 | show current question number & move to new question on change |
| 5 | txt\_questionTotal | TextView |  | 2 | show total number of questions |
| 6 | Finish | Menu option |  |  | Finish Quiz |
| 7 | txt\_questionContent | TextView |  |  | Show Question content |
| 8 | btn\_answer1 | Button |  |  | Show answer choice |
| 9 | btn\_answer2 | Button |  |  | Show answer choice |



| **#** | **Field Name** | **Type** | **Mandatory** | **Max Length** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | txt\_score | TextView |  |  | show quiz score |
| 2 | btn\_review | Button |  |  | Move to Quiz Review Screen |
| 3 | btn\_return | Button |  |  | Return to Home |
| 4 | fab\_export | FloatingActionButton |  |  | Export quiz questions & answers to Note |

### **2.6.2 Use case Specification**

| **Use Case ID** | | **UC06** | **Use Case Name** | | **Play Quiz** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **27/09/2022** |
| **Actor** | | User | | | | |
| **Description** | | User pick settings for Quiz and proceed to answer generated questions | | | | |
| **Precondition** | | PRE-01:  PRE-02: | | | | |
| **Trigger** | | TRG-01: User click on [Quiz] in Main Screen | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| 1 | App | Display spinners for Quiz type, level & length | | | | |
| 2 | User | Pick Quiz type, level & length | | | | |
| 3 | User | Click [Start] | | | | |
| 4 | App | Generate Quiz with chosen settings via API | | | | |
| 5 | App | Display Questions | | | | |
| 6 | User | Answer Questions | | | | |
| 7 | User | Click [Done] | | | | |
| 8 | App | Show Result Screen | | | | |

**Alternative flows**

| **AT1** | At step 2 in the main flows**,** if there is a saved quiz, user shall be asked whether to continue previous quiz or start a new quiz | |
| --- | --- | --- |
| **Sub step** | **Actor** | **Action** |
| 2.1 | App | Display Dialog asking user whether to start new quiz or continue saved quiz |
|  |  |  |

| **AT2** | At step 6 in the main flows**,** user choose to exit by clicking [Exit] | |
| --- | --- | --- |
| **Sub step** | **Actor** | **Action** |
| 6.1 | App | Display Dialog asking user whether to save quiz or not |
|  |  |  |

## **2.7 Export Quiz Result To Note**

### **2.7.1 Screen Design**

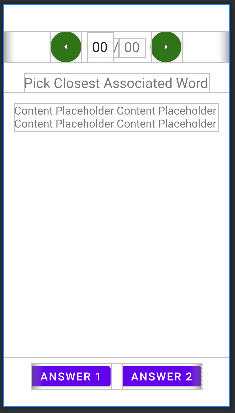
Refer to Note Add Screen

### **2.7.2 Use case Specification**

| **Use Case ID** | | **UC07** | **Use Case Name** | | Export Quiz Result To Note | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **27/09/2022** |
| **Actor** | | User | | | | |
| **Description** | | The function allows a user to export quiz questions & answers to Note for studying purpose | | | | |
| **Precondition** | | PRE-01: User finished Quiz  PRE-02: | | | | |
| **Trigger** | | TRG-01: User clicks on [Export] button | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| *1* | User | Click on [Export to Note] button on After Quiz Screen | | | | |
| *2* | App | Open Add Note screen with Quizzes’ contents | | | | |
| *3* | User | [Proceed to make change & save Note like UC03] | | | | |

## **2.8 Review Quiz**

### **2.8.1 Screen Design**



| **#** | **Field Name** | **Type** | **Mandatory** | **Max Length** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | fab\_prev | FloatingActionButton |  |  | Move to previous question |
| 2 | fab\_next | FloatingActionButton |  |  | Move to next question |
| 3 | txt\_questionNo | EditText |  | 2 | show current question number & move to new question on change |
| 4 | txt\_questionTotal | TextView |  | 2 | show total number of questions |
| 5 | txt\_questionContent | TextView |  |  | Show Question content |
| 6 | btn\_answer1 | Button |  |  | Show answer choice |
| 7 | btn\_answer2 | Button |  |  | Show answer choice |
| 8 |  |  |  |  |  |

### **2.8.2 Use case Specification**

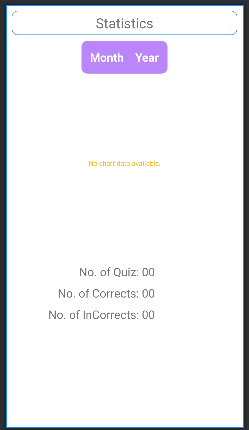
| **Use Case ID** | | **UC08** | **Use Case Name** | | **Review Quiz** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **27/09/2022** |
| **Actor** | | User | | | | |
| **Description** | | The function allows a user to review quiz after finishing Quiz | | | | |
| **Precondition** | | PRE-01: User finished Quiz  PRE-02: | | | | |
| **Trigger** | | TRG-01: User clicks on [Review] in After Quiz Screen | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| *1* | App | Show Questions & Answers, with correct Answers on Green | | | | |

**Alternative flows**

| **AT1** | User clicks on an Answer | |
| --- | --- | --- |
| **Sub step** | **Actor** | **Action** |
| 2.1 | App | Display Dictionary with the Answer’s definition [UC09] |
|  |  |  |

## **2.9 View Statistics**

### **2.9.1 Screen Design**



| **#** | **Field Name** | **Type** | **Mandatory** | **Max Length** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | Month - Year | DatePickDialog |  |  | Allow user to choose a month to display on bar chart |
| 2 | Bar Chart | MPAndroidChart.BarChart |  |  | Show A Month’s Quiz results |
| 3 | txt\_NoOfQuiz | TextView |  |  | Total number of Quizzes done in cohen Month |
| 4 | txt\_correct | TextView |  |  | Total number of correct answers |
| 5 | txt\_incorrect | TextView |  |  | Total number of incorrect answers |

### **2.9.2 Use case Specification**

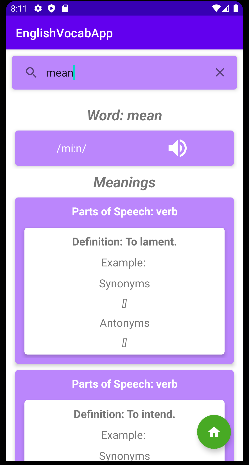
| **Use Case ID** | | **UC09** | **Use Case Name** | | **View Quiz Statistics** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **28/09/2022** |
| **Actor** | | ser | | | | |
| **Description** | | The function allows a user to view their past Quiz performance via graphs & other statistics. | | | | |
| **Precondition** | | PRE-01:  PRE-02: | | | | |
| **Trigger** | | TRG-01:User clicks on [Statistics] Button on Home Screen | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| *1* | App | Fetch data for current month from DB & visualise into graphs & text views | | | | |
|  |  |  | | | | |

**Alternative flows**

| **AT1** | User pick new Month range | |
| --- | --- | --- |
| **Sub step** | **Actor** | **Action** |
| 1.1 | App | Fetch data for chosen month from DB & visualise into graphs & text views |
|  |  |  |

## **2.10 Search Dictionary**

### **2.10.1 Screen Design**



| **#** | **Field Name** | **Type** | **Mandatory** | **Max Length** | **Description** |
| --- | --- | --- | --- | --- | --- |
| 1 | search\_view | SearchView | Yes | 30 | Search input |
| 2 | txt\_word | TextView |  |  | Display searched Word |
| 3 | txt\_phonetics | TextView |  |  | Display word’s phonetics |
| 4 | btn\_play | ImageButton |  |  | Play phonetics via MediaPlayer |
| 5 | txt\_definition | TextView |  |  | Show word’s definitions |
| 6 | txt\_partOfSpeech | TextView |  |  | Show word’s part of speech |
| 7 | txt\_example | TextView |  |  | Show word’s use example |
| 8 | txt\_synonyms | TextView |  |  | Show synonyms |
| 9 | txt\_antonyms | TextView |  |  | Show antonyms |

### **2.10.2 Use case Specification**

| **Use Case ID** | | **UC09** | **Use Case Name** | | **Search/View Word** | |
| --- | --- | --- | --- | --- | --- | --- |
| **Author** | | **AnhLB** | **Version** | **1.0** | **Date** | **28/09/2022** |
| **Actor** | | User | | | | |
| **Description** | | The function allows a user to search for a Word’s definitions | | | | |
| **Precondition** | | PRE-01:  PRE-02: | | | | |
| **Trigger** | | TRG-01: | | | | |
| **Post-Condition** | | POS-01: | | | | |
| **Main flows** | | | | | | |
| ***Step*** | ***Actor*** | ***Action*** | | | | |
| *1* | User | Type in Word and click [Search] button | | | | |
| *2* | App | Display Word’s definitions | | | | |

**Alternative flows**

| **AT1** | At step 2 in the main flows**,** if there is an error, | |
| --- | --- | --- |
| **Sub step** | **Actor** | **Action** |
| 2.1 | App | Display Toast message announcing there’s a problem occurred |