**Proposal**

**For**

**Second Year Project**

**Bachelor of Science in Information Technology**

**Dzongkha Spelling Quiz**

**Submitted by**

SONAM DENDUP**(12190082)**

**Gyalpozhing College of Information Technology**

Bachelors of Science in Information Technology
**Gyalpozhing College of Information Technology**

# Read carefully before filling the form.

1. Please do not alter the layout of the application form. Information must be filled in the spaces provided, under set format.

2. Guidance notes in various fields should not be deleted.

3. Required information should be duly filled in the specified fields.

4. Required heads/fields which are not relevant to the project should be marked **N/A** (Not Applicable) or left blank and should not be deleted.

**Guidelines and Forms**

**Submission Procedure**

Duly filled proposal forms completed in all respects should be submitted in form of soft copy and a hard copy to project guide and project coordinator. On receipt of the applications the proposals will be evaluated by reviewer panel and proposal would then be defended by student groups. The project group may need to revise the proposal in light of the evaluator's recommendations.

**For further information, please contact:**

Project Coordinator

Sonam Wangmo
sonamwangmo.gcit@rub.edu.bt

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Bachelors of Science in Information Technology
## Gyalpozhing College of Information Technology

# Application for Final Year Project

## 1. Project Identification

| | |
|---|---|
| **A Reference Number:** |
| (for office use only) |
| **B Project Title: Dzongkha Spelling Quiz** |

**C Project Internal Guide:**

| | |
|---|---|
| Name: | M/s Sonam Wangmo |
| Designation: | |
| Organization: | |
| Mobile # : | Tel. # : |
| Email: | sonamwangmo.gcit@rub.edu.bt |

**C1. Project External Guide:**

| | |
|---|---|
| Name: | **NA** |
| Designation: | |
| Organization: | |
| Mobile # : | Tel. # : |
| Email: | |

**C2. Student Group Lead:**

| | |
|---|---|
| Name: | Sonam Dendup |
| Roll No: | 12190082 |
| Department: | |
| Mobile # : | 77202588 | Tel. # : |
| Email: | sdendup2017@gmail.com |

**D   Organizations Involved in the Project:**

*(Please identify all affiliated organizations collaborating in the project, and describe their role/contribution to the project.)*

**D1.   Industrial Organizations:**

| # | Organization Name | Role / Contribution |
|---|---|---|
|   | NA |   |

**D2.   Academic Organizations:**

| # | Organization Name | Role / Contribution |
|---|---|---|
|   |   |   |

**D3.   Funding Organizations:**

| # | Organization Name | Role / Contribution |
|---|---|---|
|   | NA |   |

**E   Key Words:**

*(Please provide a maximum of 5 key words that describe the project. The key words will be incorporated in our database.)*

1. Dzongkha
2. Spelling
3. Kids
4. Offline
5. Android

**F   Research and Development Theme:**

Do you know how good you are at spelling of Dzongkha words? A dozens of interesting words for you to check your spelling. Practice "Dzongkha spelling" with Spelling Quiz - Dzongkha Words and check on which level of knowledge you are. Test and improve your knowledge of Dzongkha language and your spelling skills by playing this funniest game quizzes. Spelling really matters! If you want to leave good impression in your writing, make sure you come to the point without being misunderstood! Pay attention to plural of nouns and many other categories that can make you spell words in question incorrectly! This brand new game will help you improve your knowledge of Dzongkha spelling. Keep in touch with the latest trends and play educational free quizzes that will help your brain develop! This could be a great words builder app for kids and adults and help you develop into a real word master! So, don't wait any longer! Grab Spelling Quiz – Dzongkha  Words learning tool will be at your disposal 24/7.

**G  Project Status:**

(Please mark ☑)

☑ New          ☐ Modification to previous Project

☐ Extension of existing project

| **H** | **Project Duration:** | |
|---|---|---|
| | Expected Starting Date: | 1$^{st}$ March 2021 |
| | Planned Duration in months: | 6 months |

## 2. Scope, Introduction and Background of the Project

**A   Scope of the Project:**

**I) System Scope**
To develop a Dzongkha Spelling Quiz app with the following features:
- Their will be 30 multiple choice questions.
- The users will get 20 seconds to choose the right answer, if not it will be consider as wrong answer.
- If user answer a question correctly they will be awarded with 20 coins and 100 points, if not nothing will be awarded.
- There will be 3 lifelines available for the users to solve the questions, if user answer 3 questions wrong then they are with 0 lifeline which it means that the game is over, where at last all the scores will be displayed that the user have earned.
- Two options will be provided that is 'MENU' and 'TRY AGAIN'. If users are going to redo again they need to click TRY AGAIN options.
-In this spelling quiz the sequence of the questions are not always same, they are generated randomly, which means even if the users answer the questions correctly or incorrectly and if they want to redo it once more,it won't be the same question, where new question will be generated.

**II) User Scope**
This project is mainly for the Kids of Bhutan in order to learn the basics of Dzongkha from the very young age.

**Prototype**
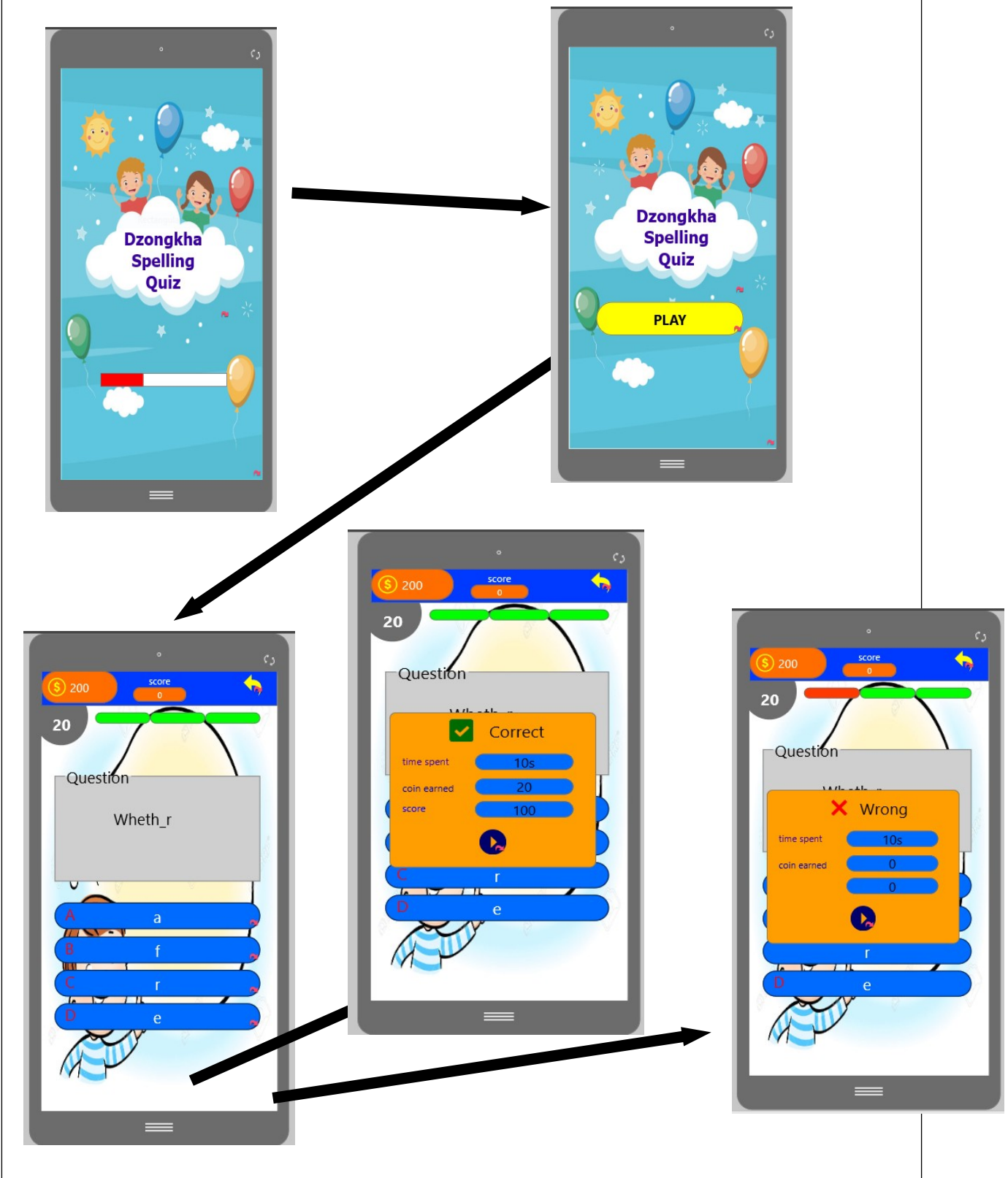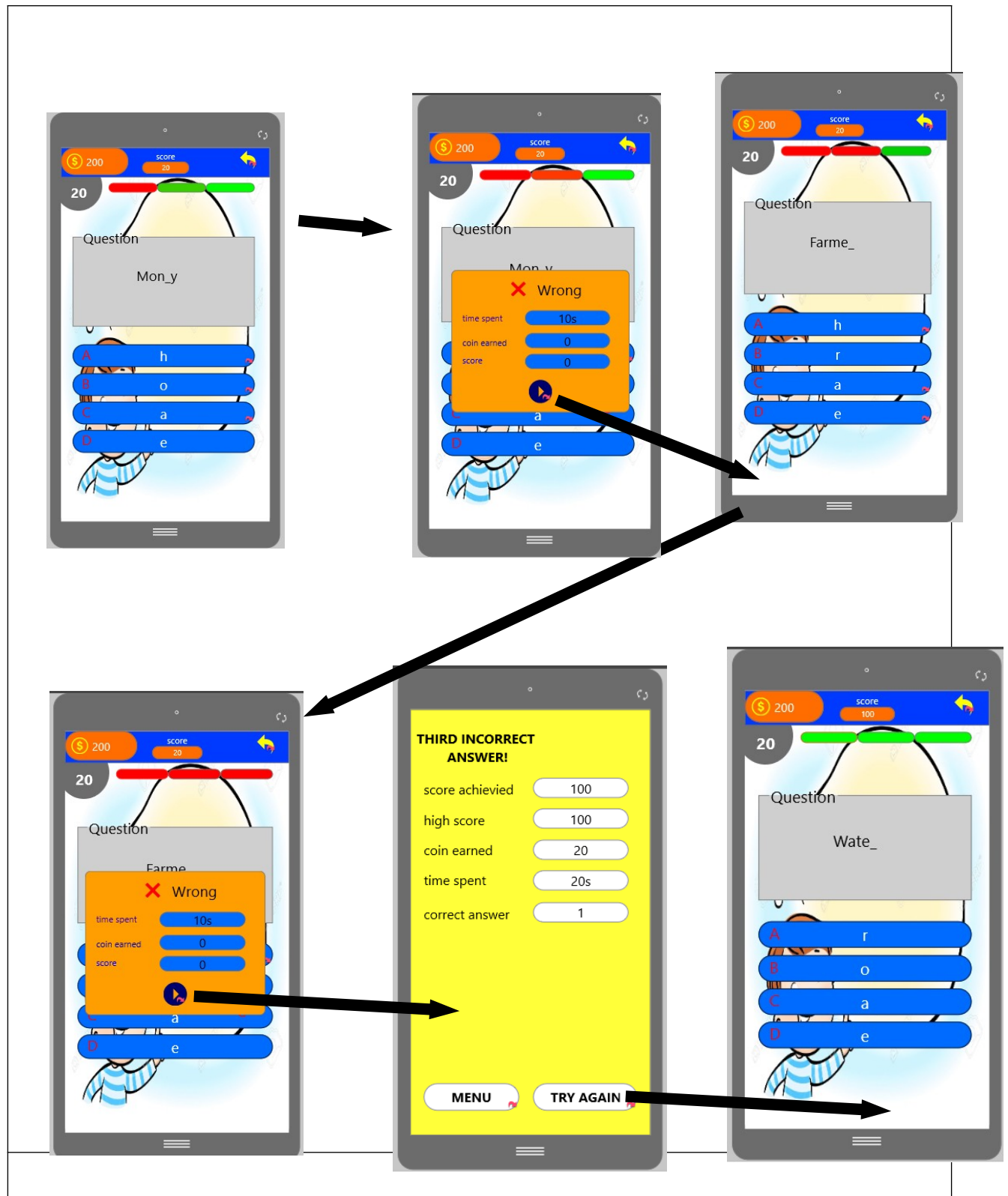
**B   Introduction (Project Background and Literature Review, Current State of the Art):**

*(Detailed summary of what all has been done internationally in the proposed area quoting references and bibliography. Please note that this section demonstrates the depth of knowledge of the project team and builds the confidence of the evaluators about capability of the team in achieving the stated objectives.)*
*(Please describe the current state of the art specific to this research topic.)*

**Project Background**
Today mobile communications technology has become the backbone of society as well as the world's most common way of transmitting voice, data, and services in the developing world, where it have brought improved the living of human beings. Given this dramatic change, mobile applications in general specifically the mobile applications for education development in holds significant potential for advancing development. Moreover, it has been the most affordable ways to access information, markets, finance, and governance systems that were previously unavailable to millions of people.

Dzongkha was declared as the national language of Bhutan in 1971 (Zangmo, 2015), but today after almost five decades Bhutanese in general, and especially the youths, are still having difficulty in mastering the language. Children still memorize Dzongkha spellings and officials practice for hours, even if they just have to read out a welcome Address which is probably because most Bhutanese grew up learning Dzongkha through crude teaching methods, which include memorizing contents of the textbook and sitting through boring lectures (DDC 2002). Changing times call for the need of preservation and promotion of the national language, as it is vital for a small country like Bhutan to maintain its independence. So, to promote Dzongkha through ICT is one of the objectives of the Dzongkha Development Commission and with upsurge in the number of smart phone users and usage of mobiles in communication is seen to be most effective strategy to promote Dzongkha. Bearing those objectives in mind, this project will be helping in promotion of Dzongkha through mobile application in Bhutan.

Almost everyone knows how to use all these latest phones and the applications within it, including kids and studies have shown that mobile technologies help in language teaching (Norton, 2014). These technologies can be used for the betterment of our lives such as in the education of our children. However, children use smartphones and other electronic devices for playing games and other unproductive activities. While there are many apps teaching other languages like English and Chinese there are none for Dzongkha. So Bhutanese children are becoming more fluent and biased towards the English language. Therefore, with the development of this Dzongkha spelling quiz Bhutanese will have a better chance at learning Dzongkha, they can learn Dzongkha easily and quickly.

**Literature Review:**

**I. Improving Students' English Spelling Ability Through Concentration Game and Tell A Story Game**

The problem highlighted in this research is the low spelling ability of Kindergarten students in Al-Irsyad Madiun that is caused by (1) the uninteresting activities in learning English; (2) the students' difficulties in spelling English words; (3) the students' low motivation in learning. The theoretical review includes the nature of spelling, games in language, teaching English and the development of young learners, and the nature of motivation. The procedure of the research consists of identifying the problem, planning the action, implementing the action, observing the action, and reflecting the result of the research. In this research, the researcher acts as the teacher who conducts the action research in the classroom and she is helped by the classsroom teacher. They practice their spelling through sticking activities such as Concentration Game and Tell a Stray Game. By conducting games, using interesting media, and creating various interesting tasks and activities can increase the students' motivation in learning English spelling ability

**II. How students can use mobiles to learn English**

The article by Joanna (Norton, 2014) did a comparative study of teaching English language with desktop computers vs mobile devices and concluded that even though desktop is an invaluable resource for language teaching, mobile devices are more advantageous. Mobile devices allow the learners to interact seamlessly with each other, in both formal and informal learning contexts, and has added features like camera and microphones which aids the learning process. Camera can make learners to 'notice' grammar around them through photographs of street signs, menus, advertisements that they see around them. Learners can record themselves speaking English using microphones and share among their friends, so that they could give them feedback which is indeed a great opportunity to improve their pronunciation.

**III. Effective Teaching Strategies to Eliminate Spelling Problems Among Saudi English Language Undergraduates**

This paper aims to explore the most recommended teaching strategies to eliminate the Saudi university students' spelling errors. The research participants were 15 students in English Language Department at Tabuk University and 15 English language lecturers from the same department. Group structured interviews were designed for the lecturers and students. The findings reveal that, there are different effective teaching strategies to master English spelling such as, practicing spelling, lecturers' pedagogical practices and Learners' Engagement. This paper concludes that, the spelling problems of EFL learners could be addressed by a variety of intervention strategies such as, instructors should be introduced to a range of teaching methods such as simulation situations where they can experience problems arising from poor spelling and role playing. Students should also be encouraged to engage in the learning process by setting tasks like, learning the spelling of a few selected words, which they can test each other on in

pairs class and so evaluate their own and their peer's work. This paper hoped that, the findings revealed in this study will help the policymakers in taking necessary actions in improving the learning experience of Arab learners of English.

**Current State of the Art**

Currently, there are a lot of English related app for learning. One of the main learning platforms that the mobile technology has enhanced is language learning. Dzongkha being our national language has become a priority in developing individual skills to communicate and more importantly is used in preserving and promoting our language and culture. However due to the development of our country, English is the most spoken language today. Currently, Dzongkha is barely used as the medium of communication in meetings, offices, sports field, restaurants or bars. As a result our national language 'Dzongkha" is at the verge of extinction. There are only a handful of Dzongkha apps for learning where these apps are not effective for the learners. Since the Dzongkha Development Commission (DDC) is the only government branch which works for the purpose of enhancing Dzongkha, where they are struggling with limited platforms. So, by developing this app, we aim to provide an interactive and easy learning platforms for the kids to learn Dzongkha and enhance their ability to speak and write in Dzongkha.

**B**

*C* **Challenges:**

*(Please describe the challenges, specific to this research topic, currently being faced internationally.)*

Dzongkha is not difficult, it never was. It's a new phenomenon among people where many are finding the language difficult because there is lack of place and resources to study it. Moreover, English has taken such a strong hold among us. With most of the syllabus being in English, there isn't much room for improvement of Dzongkha. Therein lied the biggest challenge, to mainstream and make Dzongkha more favorable for students. In schools there is just one period assigned for Dzongkha while rest of the subjects are in English.

Following are the challenges:

1. **Performance**: make your apps responsive and smooth

2. **Security**: keep source code and user data safe

3. **Compatibility**: run well on older platform versions

4. **Marketing**: understand the market and your user

*D* **Motivation and Need:**

*(Please describe the motivation and need for this work.)*

Children nowadays are prone to the foreign languages influenced through the Internet, television and mobile applications. As a result most of the children lacks vocabulary in Dzongkha and face problem in pronouncing and using appropriate words. Despite the government's effort to promote Dzongkha, it has seen the least number of interested learners over the years. Children's shows no interest in writing, learning or speaking Dzongkha as they find reading and writing in Dzongkha difficult, and also speaking Dzongkha in its purest form.

Unlike other languages Dzongkha is not widely used and there are not many developed applications in Dzongkha . And quality education as of now is highly dependent on tutors having high degrees of personal contact with students, but with the use of technologies education can become student-centered learning. Therefore everyone should be concerned and join hands to promote it.

### 3. Aim and Objectives of the Project

*(Please write the actual aim of your project. Also, describe the measurable objectives of the project and define the expected results. Use results-oriented wording with verbs such as 'to develop..', 'to implement..', 'to research..', 'to determine..', 'to identify..' The objectives should not be statements and should not include explanations and benefits. The objective should actually specify in simple words what the project team intends to achieve (something concrete and measurable/ deliverable). Fill only those objectives that are applicable to the proposed project.)*

**Aim** : The aim of this project is to develop Android based Dzongkha spelling quiz Application so that not only kids but also general public can learn Dzongkha spelling any time.

**Objectives**

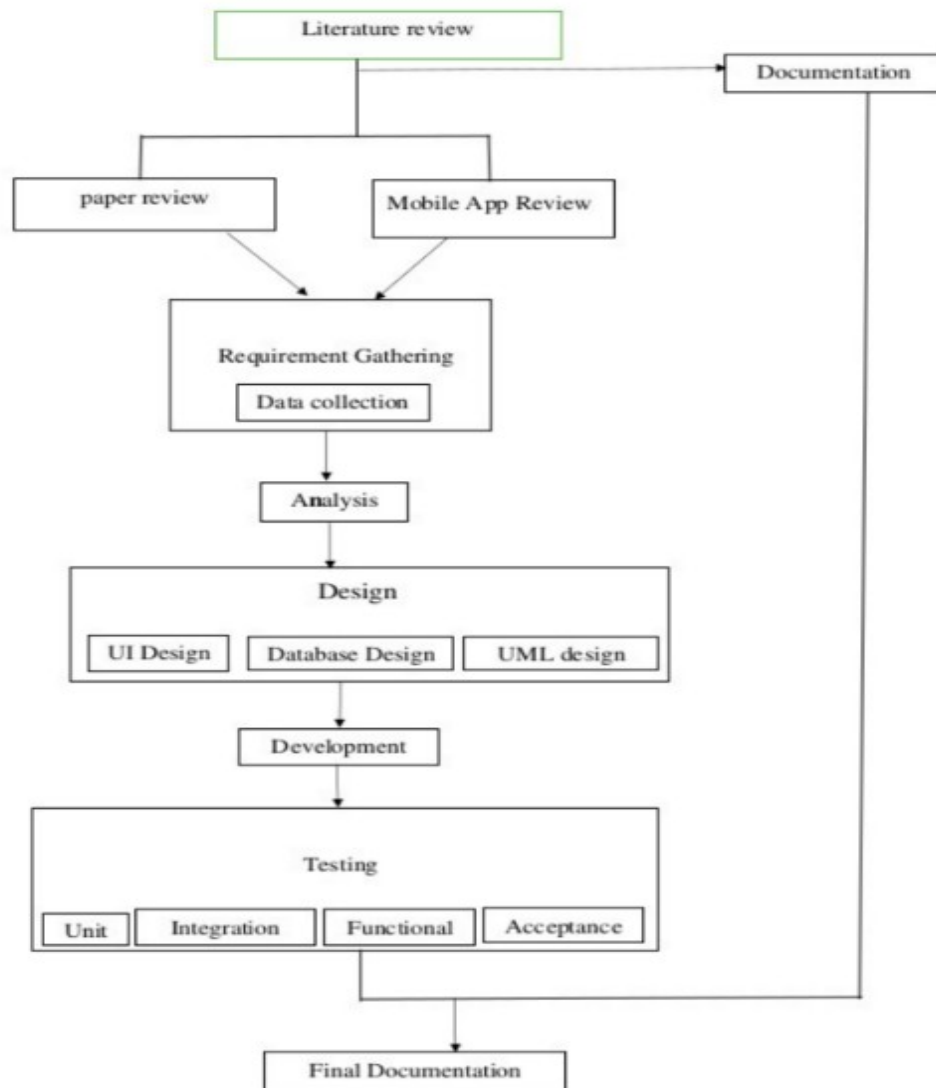The following are the objectives set to achieve the aim of the project:
• To promote and enhance Dzongkha spelling through mobile technology.
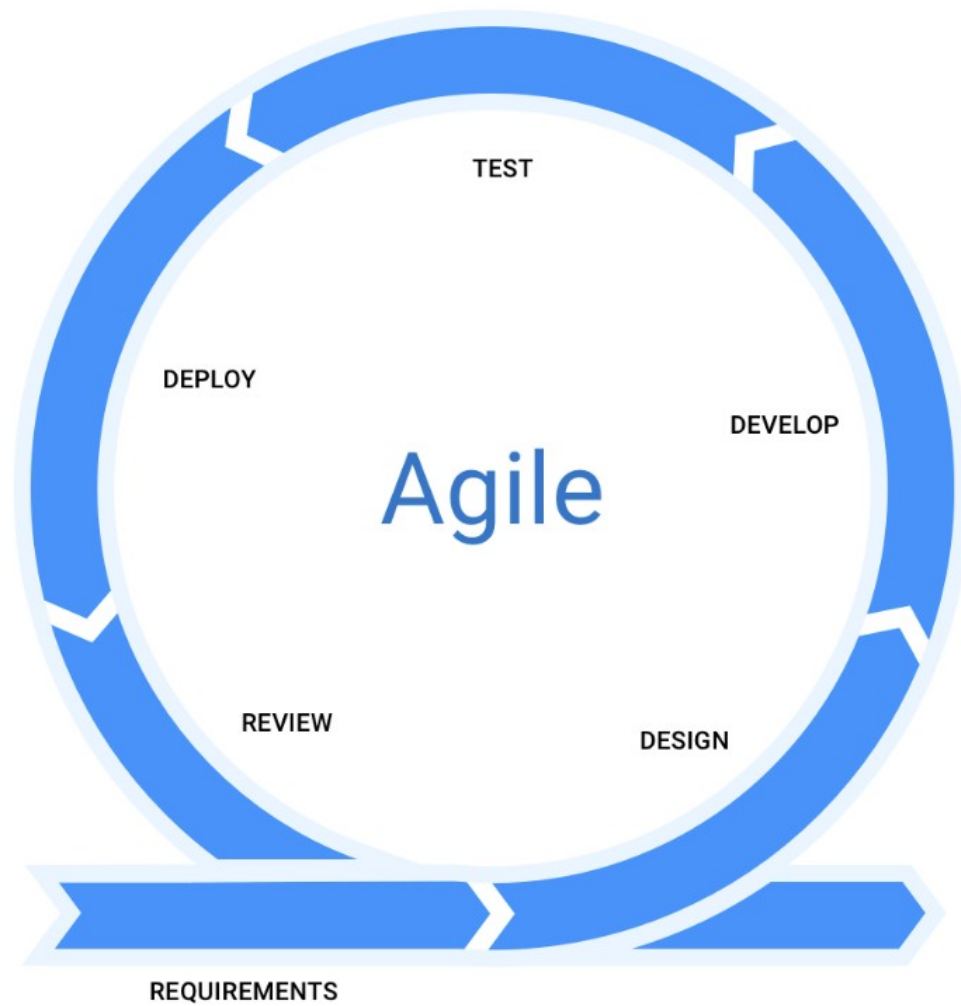• To develop free and offline Android application.

## 4. Methodology

*A* **Development / Research / Test Methodology:**

*(Please describe the technical details and justification of your development and research plan and test plan and testing strategies. Identify specialized equipment, facilities and infrastructure which are required for the project and their utilization plan. The block diagrams, system flow charts, high level algorithm details etc. have to be provided in this section. Also, describe the overall methodology to be used for the particular research topic)*

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The agile software model will be used for developing this project because of the following benefits suitable for developing an application:
1) Errors can be detected easily
2) Missing functionality can be identified easily
3) Preview the final product

**B  Project Team:**

| Title / Position | Number |
|---|---|
| Project Internal Guide | |
| Project External Guide | |
| Student Team Members | |
| Others (please specify) | |
| Add more rows if required | |

---

*C* **Project Activities:**

*(Please list and describe the main project activities, including those associated with the transfer of the research results to customers/beneficiaries. The timing and duration of research activities are to be shown in the Gantt chart in Section 8.)*

**Feasibility Study:** Through review on the different papers and mobile app.

**Installation of software and tools:** Installing android studio version (2 and above), Java Development Kit (v8 or more) , database server and VS Code.

**Resource gathering:** Books, tutorials videos, online reference related to android app development and XML.

**Design Phase:** It includes designing user interface, database design and familiarizing the functionalities of the system which will include understanding of how the control flows, keeping the design concepts in mind.

**Development of the product:** The development of app begins here with coding using android.

**Testing the product:** The product will undergo unit test to ensure that each unit functions properly and will also carry out integration testing to ensure that it produce a desired function after combining all the units. Also, if any bugs are encountered, we will solve the issues and run more tests to ensure proper functionalities of the application.

**Final Documentation:** After all the phases are done we will prepare the documentation of the project, project report and finally conclude with the final presentation.

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**D   Key Milestones and Deliverables:**

*(Please list and describe the principal milestones and associated deliverables of the project. A key milestone is reached when a significant phase in the project is concluded, e.g. selection and simulation of algorithms, completion of architectural design and design documents, commissioning of equipment, completion of test, etc.) The timing of milestones is also to be shown in the Gantt chart in Section 8.*

| No. | Elapsed time from start (in months) of the project | Milestone | Deliverables |
|-----|-----|-----|-----|
| | - | Commencement of the project | |
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(Please add more rows if required.)

**5.   Benefits of the Project (Expected output/outcomes):**

> From this project the main benefits for the learners would be:
> - Promotion of Dzongkha language.
> - Will be helpful for all Bhutanese while writing in Dzongkha.
> - Will be helpful for school youths.
> - Will be easy and fun spelling learning platform.

**6.   Risk Analysis/Feasibility**

**A   Risks of the Project:**

(Please describe the factors that may cause delays in, or prevent implementation of, the project as proposed above; estimate the degree of risk.)

| (Please mark ☑ where applicable) | Low | Medium | High |
|---|---|---|---|
| Technical risk | ☐ | ☑ | ☐ |
| Timing risk | ☐ | ☑ | ☐ |
| Budget risk | ☑ | ☐ | ☐ |

**A1.   Comments(Describe the risk):**

**1. Technical risk:** Technical failure such as corruption of files, OS crash may occur.
**2. Timing risk:** Time needs to be spend on learning android development, on research, content part of the app.
**3. Budget risk:** we don't have budget risk because we don't have to buy any software or technology. Our project can be done using free software available on internet.

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### 7. Project Approval Certificate

*(Approval of Project Proposal by the Competent Authority (Department Chairman) and Project Review Team is mandatory before the start of project execution.)*

**Project Review Team:**

Sl #      Name   Signature

(Please add more rows if required.)

*Project Coordinator*

Name:

Designation:

Email:

Date:                   Signature:

*Competent Authority – Head of Department*

Name:

Designation:

Email:

Date:                   Signature

& stamp:

**8.   Reviewers Panel Comments**

## 10. Project Schedule / Milestone Chart /Work plan

*(Project schedule using MS-Project (or similar tools) with all tasks, deliverables, milestones, clearly indicated are preferred. Task should be measured in terms of hours)*

| Activities | Start Date | Days To Complete | End Start |
|---|---|---|---|
| Topic Selection | 9-Feb | 12 | 20-Feb |
| Literature Review | 21-Feb | 21 | 13-Mar |
| Requirement Gathering | 15-Mar | 11 | 25-Mar |
| Design | 26-Mar | 13 | 7-Apr |
| Coding | 9-Apr | 24 | 2-May |
| Testing | 4-May | 12 | 15-May |
| Final Documentation | 17-May | 8 | 24-May |
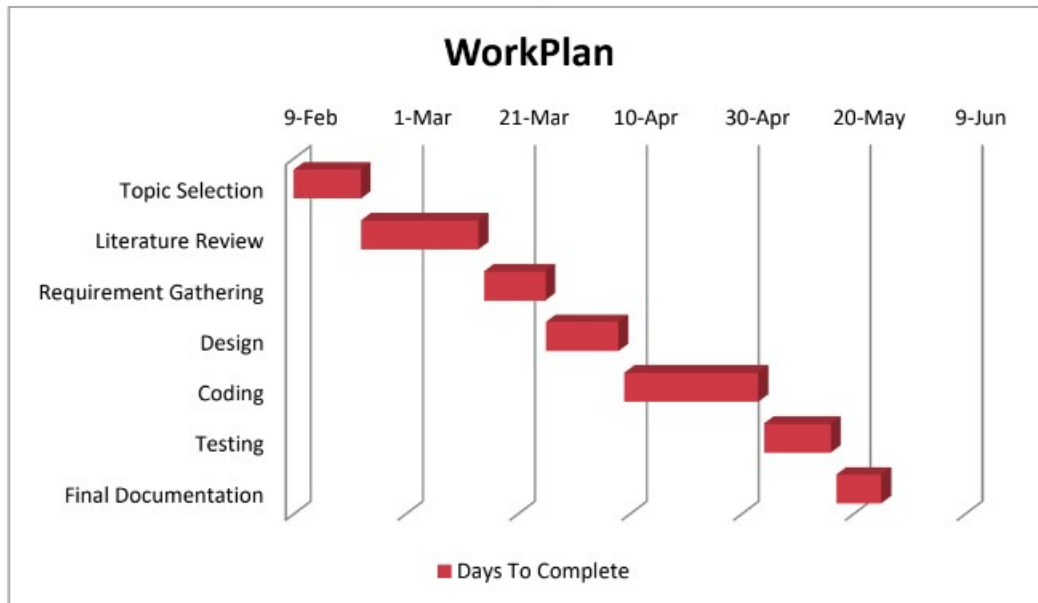
### 13. Report Writing Guidelines

*(Project report will be written under the specified guidelines.)*

# Bibliography

Astuti, Dwi.(n.d). *Improving Students' English Spelling Ability Through Concentration Game and Tell A Story Game* https://eprints.umk.ac.id/340/27/PROCEEDING_TEYLIN_2.211-223.pdf

DDC. (2002). Dzongkha : Why it is not taken seriously. Retrieved from www.raonline.ch: http://www.raonline.ch/pages/bt/visin/bt_dzongkha01b.html

Gangaiamaran, R., & Pasupathi, M. (2017). Review on use of mobile apps for language learning. International Journal of Applied Engineering Research, 12(21), 11242-11251.

Graham, S., & Miller, L. (2018, February 26). *Spelling Research and Practice: A Unified Approach*. ResearchGate. https://www.researchgate.net/publication/324271295_Spelling_Research_and_Practice_A_Unified_Approach

Noor-Ul-Amin, S. (2013). An effective use of ICT for education and learning by drawing on worldwide knowledge, research, and experience. ICT as a Change Agent for Education. India: Department of Education, University of Kashmir, 1-13.

The Dzongkha dilemma. (2015, October 28). Retrieved August 22, 2016, from http://www.kuenselonline.com/the-dzongkha-dilemma/

Rinchen, S. (1999). Why Do Children Fare Better in English than Dzongkha (National Language) in the Schools of Bhutan in All Grade Levels?.