

Bachelors of Science in Information Technology
Gyalpozhing College of Information Technology



**Proposal
For
Second Year Project
Bachelor of Science in Information Technology**

Dzongkha nursery rhymes

**Submitted by
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(12190050)**

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.

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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

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Application for Final Year Project

1. Project Identification

A. Reference Number:	
(for office use only)	
B. Project Title:	
Dzongkha Nursery Rhymes	
C. Project Internal Guide:	
Name:	Miss. Sonam Wangmo
Designation:	Lecturer
Organization:	Gyalpozhing college of information technology
Mobile # :	Tel. # :
Email:	Sonamwangmo.gcit@rub.edubt
C1. Project External Guide:	
Name:	NA
Designation:	
Organization:	
Mobile # :	Tel. # :
Email:	
C2. Student Group Lead:	
Name:	
Roll No:	
Department:	
Mobile # :	Tel. # :
Email:	

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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.)

Android, Nursery, Dzongkha, kids, Rhymes, Musical education.

F. Research and Development Theme:

The theme of this project “Dzongkha Nursery Rhymes” is to provide a platform for children to keep themselves engaged in watching rhymes and to provide education through music.

G. Project Status:

(Please mark ☒)

- ☐ New ☒ Modification to previous Project
☒ Extension of existing project

H. Project Duration:

Expected Starting Date: 10 feb 2021

Planned Duration in
months: 3 months

2. Scope, Introduction and Background of the Project

A. Scope of the Project:

Scope of the project is limited within Bhutan and it is mainly for kids.

To develop a mobile application that deals with Dzongkha Nursery Rhymes for kids with following features :

1. Offline based

One can access to this application with internet connection.

2. Accessibility

Anyone can access to this app without logging into or registering it.

3. Videos

User can watch the videos of there choice.

4. Favorite icon

The user will be able to mark his/her favorite rhyme videos and he/she can access those marked phrases easily by just clicking the favorite button.

5. Play again

If user want to play the video again he/she can just click on the play again button.

6. Rhyme selection

User can select rhyme videos that they want to watch

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.)

Introduction

Nursery rhymes are part of a longstanding tradition in early childhood education. It might be surprising to many, but the concept of whether or not nursery rhymes continue to have a crucial role in children's learning has become a popular controversy in the field of child and adolescent development. A common form of literature for young children is nursery rhymes. Several of us grew up going to bed being read nursery rhymes. At the fundamental level, nursery rhymes help promote positive attitudes toward language learning and help children build an alertness of the sound patterns of language. Furthermore, this can also lead to helping them learn to pronounce words more easily by repeating them and practicing them without the pressure of being criticized. From the time of birth to the earliest years of life the child's brain is constantly going through enormous changes, hence these rhymes help support the development of language, cognitive, social, emotional, fine and gross motor skills. In its most basic form, the ease of memorizing and reciting these verses helps support the development of memorization and verbal skills.

Nursery rhymes provide a unique learning context for preschoolers in regard to their emergent literacy and musical development. According to Vygotsky's social constructivist theory (1978), in order for learning to occur, children must face challenges, and adults must provide support to guide them toward mastery of new skills.

By looking into above effectiveness of Nursery Rhymes Bhutan is in need of such app, till date there is no Dzongkha nursery rhyme app in Bhutan for kids.

Therefore, Dzongkha nursery rhymes App project will developed to solve general.

Literature Review:

A recent study conducted by Bolduc, Lefebvre, and Pirkenne (2012) assessed the efficiency of nursery rhymes in fostering the development of both musical and phonological processing skills through four different learning conditions: 1) nursery rhymes supplemented by explicit musical instruction; 2) nursery rhymes supplemented by explicit phonological awareness instruction; 3) nursery rhymes supplemented with a combination of explicit phonological awareness and musical instruction; and 4) passive listening to nursery rhymes. Results indicated that only children in conditions 1, 3, and 4 showed significant improvement in their musical skills such as tonal and rhythm perception. Also, children in conditions 1, 2, and 3 showed significant improvement in their phonological awareness development. However, only the children in the two conditions in which the music component was integrated (conditions 1 and 3) showed significant improvement in another phonological processing skill that predicts reading success: verbal memory. This study supports the addition of explicit language and musical teachings into the nursery rhyme activity in order to provide a more profitable learning experience for children than the passive listening to nursery rhymes, even if it requires children to focus their attention for a longer period of time.

Brown (2007:8) states that teaching is showing or helping someone to learn how to do something, giving instructions, guiding in the study of something, providing with knowledge, causing the know or understand. From the definition above, the researcher concludes that teaching is the process of carrying out those activities that experience has shown to be effective in getting students to learn. 6 In short, successful teaching cannot be reduced to a set of general rules, or a prescribed pattern of behavior teaching is imparting knowledge or skill.

C. Challenges:

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

Challenges we could face when developing the App:

- A.** Performance: to make my application user friendly and to make this app one of the best for customer .
- B.** Security: code safety.
- C.** Software Fragmentation: new version of software might hamper thus project to work flawlessly.
- D.** Marketing: to make it available in the market might be the biggest challenges for me.

D. Motivation and Need:

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

Kids in Bhutan are watching nursery rhymes though YouTube and Facebook's. There is no independent platform for watching nursery rhymes. In current state if kids want to watch Dzongkha Nursery rhymes they have to visit DDC website or Facebook's which is not user friendly and convenient for kids.

With development of this application kids will more involved in Dzongkha rhymes rather than English rhymes. This app will help students to learn rhymes before going to school. This is why i were motivated to carry out this project.

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 :

Aim of this project is develop a android Based Dzongkha Nursery Rhyme application.

OBJECTIVES :

The following are the objectives set to achieve the aim of the project:

- To promote and enhance Dzongkha via mobile technology.
- Promote positive attitudes toward language learning
- To develop free and offline Android application.
- To launch application in Google Play Stores.

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)

General Methodology

Following Software process will be involved while developing the project:

Problem statement

This phase Identifies the problem faced within the community and develops the application that must be the solution for the stated problem.

Literature review

This phase discuss about the past research papers related to specified topics. it is written to have strong backbone to support the specified problem. Writing a literature review involves finding relevant publications (such as books and journal articles), critically analyzing them, and explaining what you found.

Requirement gathering

After reviewing enough papers and All possible requirements of the system to be developed are captured in this phase and documented in a requirement specification document.

Design

The requirement specifications from first phase are studied in this phase and the system design is prepared. This system design helps in specifying hardware and system requirements and helps in defining the overall system architecture.

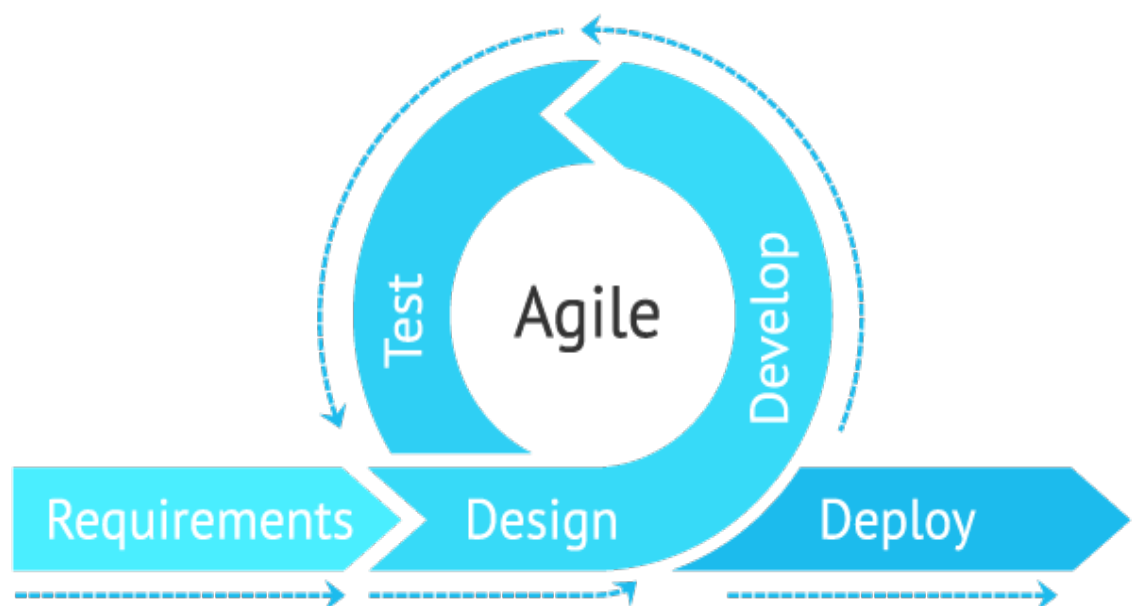
Implementation

Implementation phase comprises of development of the application where various features of the app will be developed. During the development, every feature will be tested by the team to insure the functionality of each component. The development of the system will be based on the prototyping method for improving the effectiveness and efficiency of the app and welcome new requirements.

Testing

In order to ensure the functionality of each component, every component will undergo unit testing. The tested component will later undergo integration testing to ensure proper functioning of the app. If there are any issues encountered during the testing phase, the team will resolve the issue and test again.

Development model

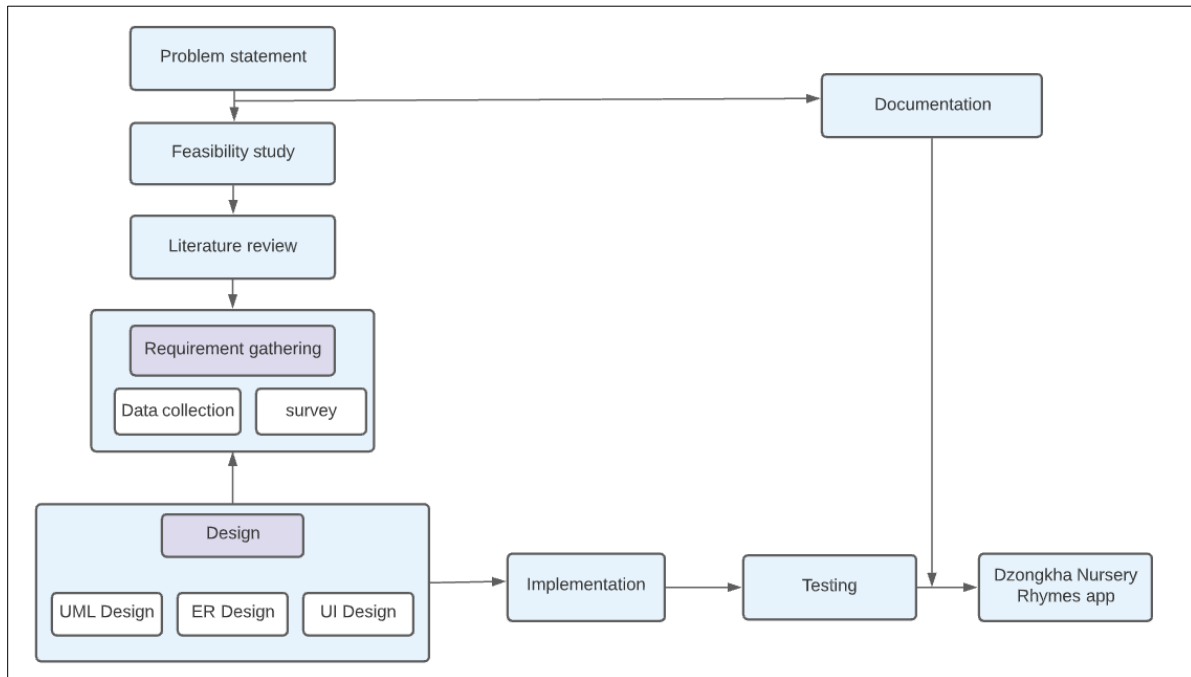


I chose agile model for development of this project because :

1. Deployment of software is quicker and thus helps in increasing the trust of the customer.
2. It Can adapt to rapidly changing requirements and respond faster.
3. Helps in getting immediate feedback which can be used to improve the software in the next increment.

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.)



The project will begin conducting survey for feasibility study of our development and with the installation of the required software's (Android Studio and Java Development Kit v8 or more) and gathering of references (Books, tutorial documents, videos, internet, and library) related to the Android application development and XML.

The next phase of the project will consist of designing a database for the application and familiarizing the functionalities of the system which will include understanding how the control flows. The rest of the phases will include development and testing of the product under each iteration.

The development phase will be initiated following the prototyping model which will ensure low risk of project failure and greater flexibility of adjusting to the changing need and requirements.

After the development phase, “Dzongkha Nursery Rhyme ” application will undergo testing phase where the developed app will be integrated to check its functionalities. If any bug is encountered, the development team will solve the issues and run more tests to ensure proper functionalities of the application. The final activity of the team will be to prepare the project report, user manual 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
1	10/02/2021 - 25/02/2021	Problem statement	Topic selection and problem
2	26/02/2021 - 14/03/2021	literature review	Feasibility
3	15/03/2021 - 25/03/2021	Requirement gathering and analysis	SRS document and Software installation
4	26/03/2021 - 07/04/2021	Design	ER diagram,UML diagrams, User interface design.
5	8/04/2021 - 5/05/2021	Coding	Source code and functional features implemented
6	6/05/2021- 20/05/2021	Testing	Test case
7	10/02/2021 - 28/05/2021	Final Documentation	All document combined together and ready

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

The application will keep children engaged with themselves in watching rhymes. so far this type of app is not developed and students are also attracted to English's popularity since everything is based on English. It will be a interactive platform for children. it will also help in preservation and promotion of Dzongkha.

For User:

- Promotion of Dzongkha
- Will be helpful for all kids be engaging in watching rhymes.
- Will be fun learning platform
- Easily accessible

for developer

- Gain real time project skills
- Can earn if it is successful

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 <input checked="" type="checkbox"/> where applicable)	Low	Medium	High
Technical risk	<input checked="" type="checkbox"/>		
Timing risk		<input checked="" type="checkbox"/>	
Budget risk	<input checked="" type="checkbox"/>		

A1. Comments(Describe the risk):

Technical risk:

- My project has low technical risk because all the necessary requirement are provided from college.

Timing risk:

- Have to spend time in doing research, designing, learning android and developing the application.
- Difficult to manage time between study hours and project development.
- Complete of project within given time.

Budget risk

- Low budget risk because nothing has to be purchase.

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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

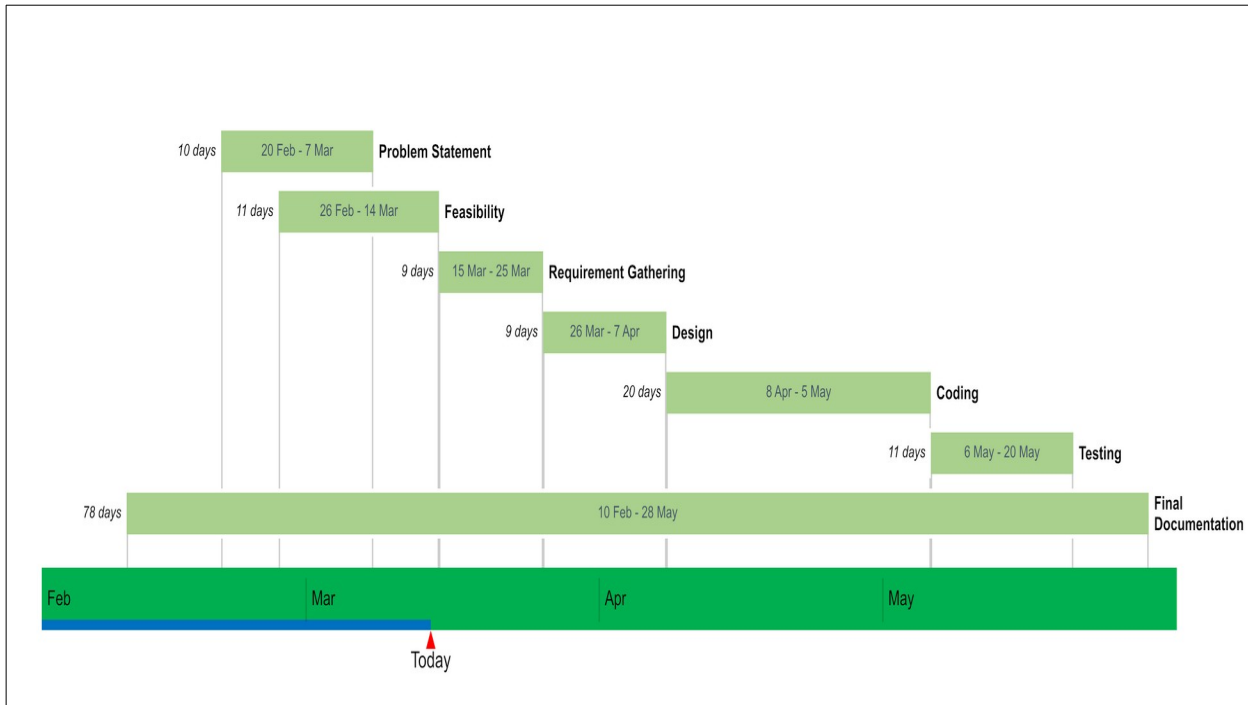
& stamp:

8. Reviewers Panel Comments

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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)



13. Report Writing Guidelines

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

Prototype



Before the actual development of the application, a prototype was created for the clear picture of how the application would look and work as a reference for the developers, as well as the client. The prototype was sent to the client for approval and their feedbacks were taken into account and it was revised several times before the prototype given below was finalised.

1. Splash Screen



Figure 1: GUI:splash screen

When the user opens the application, he/she is welcomed into the application with a splash screen for three seconds before leading the user to the main home page of the application.

2. Home page



Figure 2 : GUI:homepage

After the splash screen, the user will be directed to the home page(Scroll bar). This page consist of Rhymes and user can select it whatever they want to watch, a navigation drawer, it is this page where some features are displayed.

3. Video page



Figure 3 : GUI:Video page

When you click on the image in the above home page this page will be displayed where user can play the video of rhymes.

4. Navigation bar

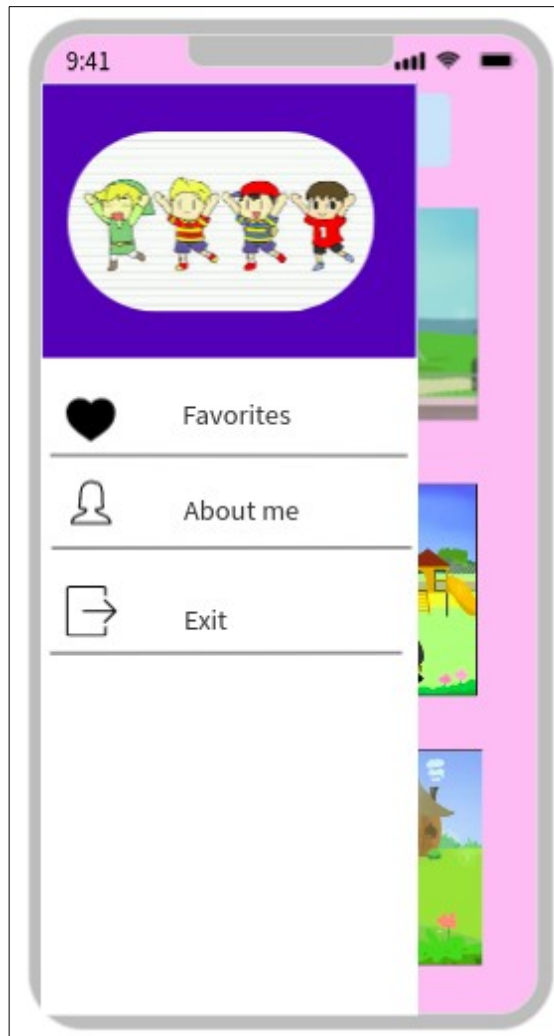


Figure 4: GUI:Navigation

The navigation drawer is located on the top left side of the home page. It consists of the features listed below from which the user can select any to view the information inside.

5. Favorites

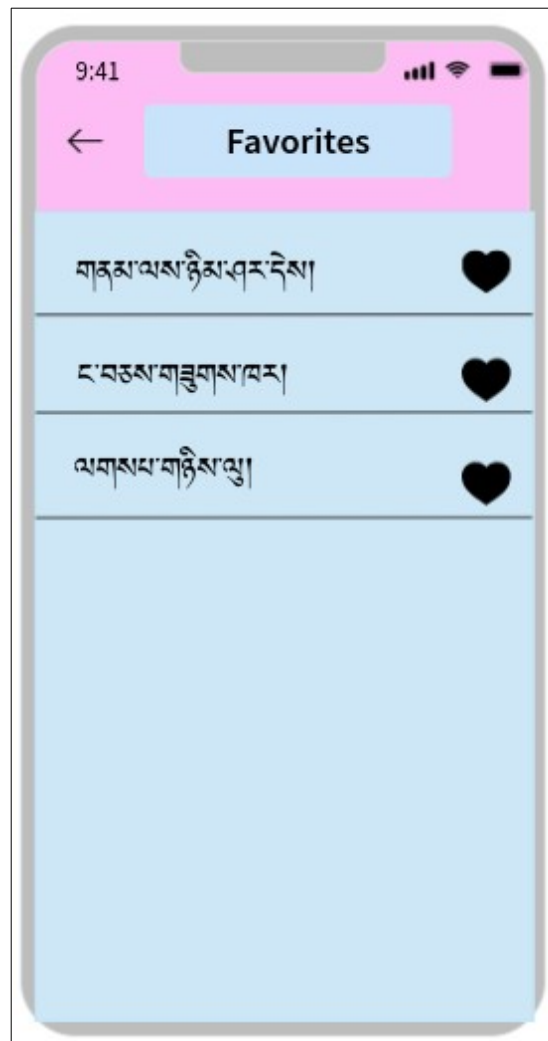


Figure 5:GUI:Favorites

Favorite page consists list of favorite rhymes that user have added by clicking on right corner of video page. User can also remove the items from favorite by clicking on the heart icon.

6. About me



Figure 6: About me

This feature will provide the basic information about the developer. Once again.

Bibliography

Macmillan, B. M. (2002). Rhyme and reading: A critical review of the research methodology. *Journal of Research in Reading*, 25(1), 4-42.

Bolduc, J., Lefebvre, P., & Pirkenne, C., (2012) Using nursery rhymes to foster phonological and musical processing skills in preschoolers. *Creative Education*, 3(4), 459-502.

Brown, H. Douglas. 2007. *Principles of Language and Teaching* Fifth Edition. San Fransisco State University: Longman.

Vygotsky, L.S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

