



Proposal
For
Mobile Application

Gyalpozhing college of Information Technology
Royal University of Bhutan
Bachelor of Computer Application

Bhutan-Neykor

Submitted by:
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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

General Objective

This module aims to allow students to advance their understanding of the software development process through the accomplishment of a full-scale project. The main objective is to give students a thorough experience in undertaking and completing a large piece of work with self-responsibility as well as teamwork. Students will apply software design skills, systems analysis and design, database and networking concepts learnt throughout the programme, including the technical skills of analysis of an existing system, redesign and design alternatives. Successful graduates of the programme will thus have a substantial addition to their portfolio of actual outputs.

The expected learning outcomes on completion of this module are:

1. Prepare a formal specification for a software system after requirement analysis.
2. Perform a feasibility analysis.
3. Plan and write a project proposal.
4. Execute planned activities, make realistic work commitments, and present the work done towards software development effectively within a pre-decided timeline.
5. Design and codify the developed software with proper documentation.
6. Maintain milestones in an actual full-scale software development cycle.
7. Prepare a formal test case for software testing.
8. Apply best practices in software development strategies to develop an independent project.
9. Apply basic software quality assurance in testing and debugging of developed software.

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.

Project Coordinator
Madam Sonam Wangmo
sonamwangmo.gcit@rub.edu.bt

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Application for Final Year Project**1. Project Identification**

A. Reference Number: (for office use only)	
B. Project Title: Bhutan-Neykor	
C. Project Internal Guide: Name: Sonam Wangmo Designation: Lecturer Organization: Gyelpozhing College of Information Technology Mobile # : 17391134 Tel. # : Email: sonamwangmo.gcit@rub.edu.bt	
C1. Project External Guide: Name: Designation: Organization: Mobile # : Tel. # : Email:	
C2. Student Group Lead: Name: Roll No: Department: Mobile # : Tel. # : Email:	

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
1.		
2.		

D2. Academic Organizations:

#	Organization Name	Role / Contribution
1.		
2.		

D3. Funding Organizations:

#	Organization Name	Role / Contribution
1.		
2.		

E. Key Words:

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

An easy tour around Bhutan with hand on app to decide and tracker to know where you are going.

F. Research and Development Theme:

Tourism plays a vital role in upgrading the GDP(Gross Domestic Product) in our county and many people from outside prefer to visit our country having most valued and rich culture. This application will help everyone who prefer to visit different places around Bhutan having a proper directional maps in it. Not only the outsider but also the citizen of our country can use it while traveling to different places for the way/direction to visit the places.

The interface between the most important places in Bhutan and the visitor has been only in the web but this application will fulfill the need for that interface. This application will be dynamic as the user can also upload the places that they have visited which isn't in the database.

G. Project Status:

(Please mark ☒)

☒ New Modification to previous Project
Extension of existing project

H. Project Duration:

Expected Starting Date: 01-March-2021

Planned Duration in months: 4 months

2. Scope, Introduction and Background of the Project

A. Scope of the Project:

User Scope:

- This project scope will be within Bhutan.

System Scope:

- Welcome: it is the first welcoming page of the app.
- Register: The user have to register in order to access the app with specific requisition.
- Verification: Auto generation of an OTP pin will be sent to the mobile number provided so that to validate the register.
- Login: Using the phone number as the user name and entering password to get in the main page of the app.
- Home: shows the places to visit and have and option to select the dzongkhag that you want to visit.
- Map: The icon is in the home page so that the location of the places can be known.
- Saved: we can take picture of the places we visit and upload it in this page with some added description.
- Profile: detail of the user and some of the in built system management can be seen in this page such as setting, feedback and so on.

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

Tourism in Bhutan have a important role in increasing the Gross Domestic Product of the country having 4.7% of the GDP coming from the tourism industry. With the lack of proper technology to explore the places that have been always sacred to the Bhutanese is now being visited by the tourists and the interface between these two are the guide produced by tourism industry. To enhance more trust and smooth function of the routes and history of the places this app plays vital role in providing these information to the users.

This app will not only be used by the tourists but will be also be applicable to the citizen of the country interested in visiting important places of our country. Even if our country have around 39 thousands sqkm land coverage, many people haven't visited most of the holy and attractive places in the country. Hence this app will provide a proper guide in taking to places to place in Bhutan and it also keeps the experience and memories in the form of pictures.

Literature Review

A study case carried out by the Department of Design and Department of Computer Science of University of Brasilia, Brasilia, Brazil they found out the challenges and methodology on how to come up a App for Tourist.

During the design of Facemap we faced many challenges. The first one was the definition of an innovative concept. The market for mobile apps for tourists is huge and there are many possibilities for designing new apps. However, innovating in an area where there are already so many is not easy. Many apparently pioneering ideas were already taken. In addition some good ideas are not feasible. Moreover, it seems that a good environment for innovation is needed. It should be composed of people with different points of view and previous experiences, forming a heterogeneous environment conducive to innovative ideas.

This project looked for this environment. We also carried out thorough research and analysis on the possible ways of designing the app. Considering that the key issue of this project was the visualization of information, we sought to investigate different types of visualizations. The use of a Treemap seems to be an interesting solution for visualization of query results. The use of Google Map – My Place and Google Street View displayed on the same page may help people to have a contextualized view of the place, and therefore increase their sense of assertiveness. We also worried about interaction design, trying to make the interface as intuitive as possible.

Current State of the Art

Bhutan have very less Gross Domestic Product compared to other relatable countries which mostly is dependent on the tourism industry. The Tourism industry evolve in many ways to approach on how our country can be most valued tourism friendly is. The interaction between the importance of the places have been done in the web based technologies and the application based are evolving very fast and the opportunities to make our country visible to the outside world can be done.

Apps like Bhutan Tours and Packages, Bhutan Travel & Explore, Bhutan Travel Apps have been develop to enhance the interconnection between the tourism industry and the tourist.

C. Challenges:

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

1. Less users:
As there is already many existing platform which are used for tourism purpose.
2. Security:
As this app need location of the user, the hacker may trace their location and can be harmful to the user.
3. Requirement Gathering
Since the sacred places all around Bhutan have be in this app, the data gathering will be difficult in this project.

D. Motivation and Need:

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

Bhutan is poor in terms of Gross Domestic Product and to be sustainable the dependent in the tourism industry have been there and the improvement in the quality of the services provided to the tourist id the factor of the growth and deprive of the economy of the country. So to have a user-friendly and a better interface not only to the tourist but

also to the people of the country to explore Bhutan with most productive way, this point triggered me to come up with this app.

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:

To develop an interface to enhance the experience and memories of visiting Bhutan.

Objectives:

- To provide a proper interface to express the beauty of Bhutan to users.
- To interconnect tourist with better understanding of our country.
- To provide proper guide and route to important places around Bhutan

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 is mainly for stating the problems so that the solutions could be identified and then be solved. All the problems need to be identified regarding the development of the app, as it helps in focusing on that problem.

1. Requirement analysis and Gathering

Collecting all the required information regarding the development of the app through the means of surveys, interaction, interview and web sources.

2. Designing and Developing phase.

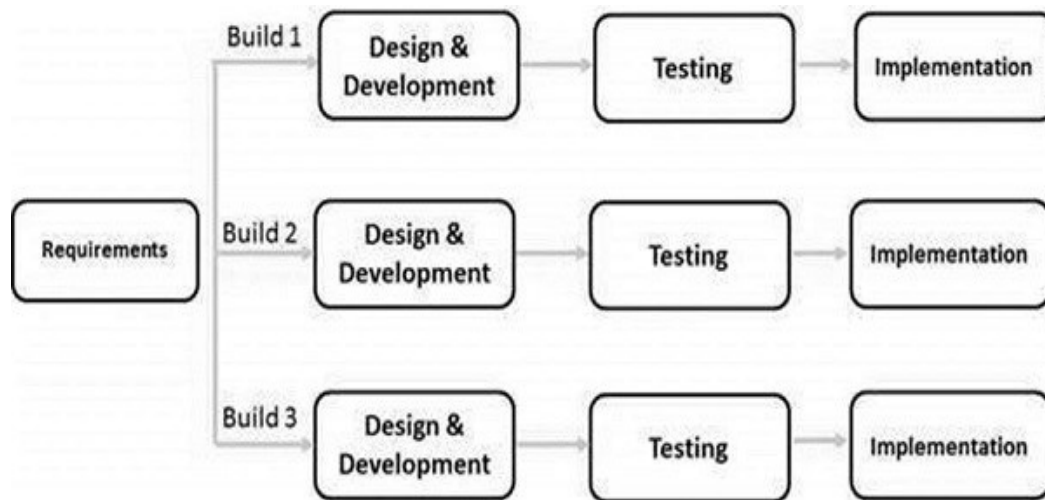
This phase is dedicated to designing with the information obtained from the requirement gathering and requirement specification and proceeding to develop the app.

3. Testing Phase.

Once the app has been developed, it needs to be tested for identifying any bugs or malicious respond and effects. The app needs to pass all the specification mentioned in the SRS.

4. Documentation.

The final phase is for documenting all the necessary things that are being done in the process of the development of the app. Documentation is necessary for the sole purpose of educating third parties as well as the users.



Iterative Model

Through each iteration, the model is further developed and designed better than the previous iteration. With the requirements given at the initial phase, the model is prepared but it can be modified or updated with more information if problems arise at the initial iteration. This model will help in building the app as through each iteration, we will be able to detect any shortcomings or defects that needs to corrected and altered.

B. Project Team:

<i>Title / Position</i>	<i>Number</i>
Project Internal Guide	Sonam Wangmo
Project External Guide	
Student Team Members	Gyeltshen Wangchuk(12190052)
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.)

1. Installation:

- i. Android Studio
- ii. Mockplus
- iii. MySQL

2. Gathering information and conducting surveys.

Collecting all the required information regarding the development of the app with the methods of collecting data(such as interviews, survey, web based).

3. Designing and Developing phase.

This phase is dedicated to designing with the information obtained from the requirement gathering and requirement specification and proceeding to develop the app.

4. Testing Phase.

Once the app has been developed, it needs to be tested for identifying any bugs and errors. The app needs to pass all the specification mentioned in the SRS.

5. Documentation.

The final phases is documenting all the necessary things that are being done in the process of the development of the app. Documentation is necessary for the sole purpose of educating third parties as well as the users.

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.

The information given in this table will be the basis of project monitoring and marks assignment to the project group.

No.	Elapsed time from start (in months) of the project	Milestone	Deliverables
1.	9/02/2020 20/02/2020	Title selection	Searching for a suitable topic
2.	21/02/2020 01/03/2020	Literature Review	Studying on the different developers who have built similar app.
3.	02/03/2020 14/03/2020	Documentation	Writing proposal and documenting on how the project is going to be carried out.

4.	15/03/2020 26/03/2020	Requirement Gathering	Collecting the required thing in the development of the app.
5.	15/03/2020 26/03/2020	Design	User interface, logical design. ERD, DFDs.
6.	28/03/2020 30/04/2020	Implementation/ coding	Implementation of source coding.
7.	01/05/2020 09/05/2020	Testing	Conduct various test of the app for any bugs or errors.
8.	10/05/2020 16/05/2020	Complete coding and testing	Final completion of the app
9.	07/05/2021 22/05/2121	Final Documentation	Completion of the project
(Please add more rows if required.)			

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

- Acts as an interface to communicate between the sacred places of Bhutan and the users/visitors.
- It provides platform to express the experience of the user who have been traveling with this app.
- Provides ways and places to visit in Bhutan.
- It is not meant for the tourist only.

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:

1. Technical risk – As the development of the app begins, the lack of knowledge may become a hinder in the development.
2. Timing risk – The risk of whether the project could be completed on time or not could also be another risk as the development begins.
3. Budget risk – Since the project is does not require any financial need, the risk of budget is not a concern.

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

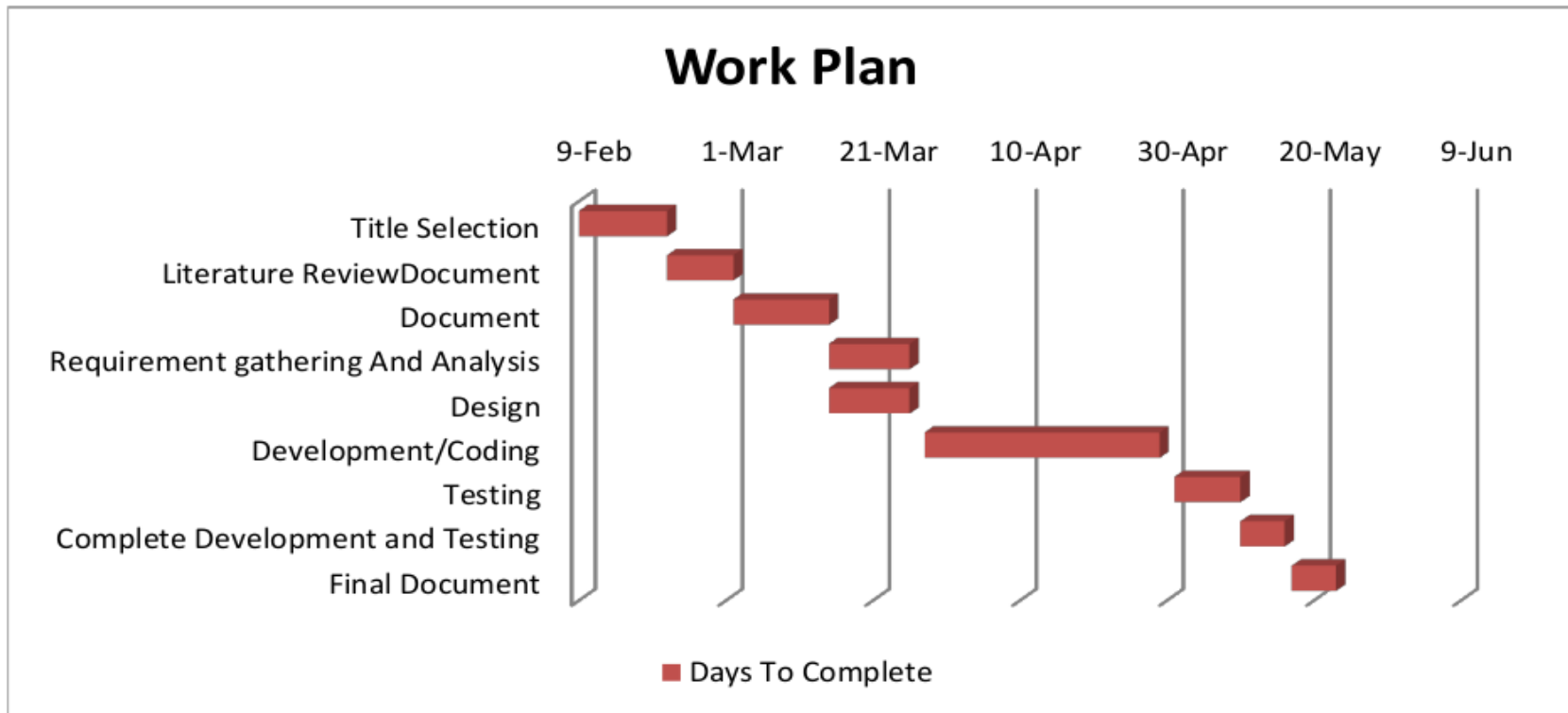
& stamp:

8. Reviewers Panel Comments

10. Project Schedule / Milestone Chart /Workplan

(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 Date
Title Selection	9-Feb	12	20-Feb
Literature ReviewDocument	21-Feb	9	1-Mar
Document	2-Mar	13	14-Mar
Requirement gathering And Analysis	15-Mar	11	26-Mar
Design	15-Mar	11	26-Mar
Development/Coding	28-Mar	32	30-Apr
Testing	1-May	9	9-May
Complete Development and Testing	10-May	6	16-May
Final Document	17-May	6	22-May



13. Report Writing Guidelines

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

Bibliography

Souto, V. T., Cristo, C., Araújo, M. G., & Santos, L. (2015, August). Designing apps for tourists: a case study. In *International Conference of Design, User Experience, and Usability* (pp. 425-436). Springer, Cham.