Proposal

For

Second Year Project

Bachelor of Science in Information Technology

Project Name

Submitted by

SARASWATI ACHARJA(12190075)

…

…

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.

Gyalpozhing College of Information Technology

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

Jigme Wangmo
jigmewangmo.gcit@rub.edu.bt

Tshering Lhamo
tsheringlhamo.gcit@rub.edu.bt

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Gyalpozhing College of Information Technology

Application for Final Year Project

1. Project Identification

A. Reference Number: (for office use only)	

B. Project Title: IT for beginners.	

C. Project Internal Guide:

Name:	Mrs.Sonam Wangmo
Designation:	Lecturer
Organization:	Gyalpozhing College of Information Technology
Mobile # :	Tel. #: 17391134
Email:	sonamwangmo.gcit@rub.edu.bt

C1. Project External Guide:

Name:	**NA**	
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
	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.)

- ✓ IT basics
- ✓ Shortcut keys
- ✓ Images
- ✓ Computer abbreviations
- ✓ IT's application

F. **Research and Development Theme:**

IT for beginners' app gives learner with creative outlines entertaining graphics, and number of highlights which would draw the consideration that serve the purpose which is to teach the student of middle grade (class seven to twelve). Learning IT basics is not restricted to boring material. Striking pictures with description in app will keep the young learners active when tuning in, looking and recalling how? what? why? where? about the computers with lots of fun and satisfaction. Moreover my app being user friendly, it suggest the users to get it at any time not at like the school timetables.

G. Project Status:

(Please mark ☑)

☑ New   Modification to previous Project

Extension of existing project

H. Project Duration:

Expected Starting Date:	08/03/21
Planned Duration in months:	Four Months

2. Scope, Introduction and Background of the Project

A. Scope of the Project:

<u>**System Scope:**</u>

IT for beginners is an android app which includes the following features:

Register: To register in the app, the user will have to fill up the form with their personal details such as mail. With the mail given, they will get a verification code to complete their registration.

Login: The user will be using above registered mail as username to login.

CRUD Operation: allows admin to perform crud operation like to create, edit and delete.

Fundamentals: users can get the ideas about the computer fundamentals, the basics of computers.

Abbreviations: users can get the ideas on the short form or computer's abbreviation.

Shortcut Keys: The user can have an idea on the use of shortcut keys instead of mouse.

Quiz: Users can do quiz to test the level of understanding after having concept of IT basic and using this app.

Logout: The user can logout from the session.

<u>**User Scope:**</u>

IT for beginners app is an android based application which targets the students of grade seven to twelve.

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

In this cutting edge time, there is no one who does not have get to smart phones. Today, the mobile world isn't as it were limited to essential needs like chatting, phones calls and so on but has too presented versatile applications that make learning easy. Mobile innovation has progressed exceptionally quickly that everything has ended up easy. People can utilize diverse sorts of applications that the smartphones can back suit their needs and comfort anytime and anyplace.

These advances can be used betterment of our lives such as within the instruction of our children. In any case, student use smartphones and other electronic devices for playing games and other unproductive exercise. Whereas there are numerous apps of education related, there are only few for computers learning. So Bhutanese children are becoming more familiar and one-sided towards the others type of learning. Subsequently, with the development of this IT for beginners' app, Bhutanese children will have a better chance of learning fundamental or basics of computers at young age, they can learn basics of computer effortlessly and rapidly.

To know approximately the computer in this era have gotten to be significance to youth. All over at any put everything works innovation and no place it is noticeable to get it almost the computer essential to get it the advances. Due to balance, everything works with innovation where the student's lives have ended up exceptionally vital to have the information and abilities on computer to get it everything. For their superior learning to have essential information on IT, it is critical to have such app which can offer assistance the grade seven to twelve to have the information on computer essential. Besides, offer assistance them as they develop and works for all intents and purposes. In this manner it makes a comfortable stage for students to effortlessly get it almost the computer without require of teachers and textbooks anytime not at just like the school timetables.

This app is for the students of grade seven to twelve with small or no earlier computer information and gives the fundamental computer aptitudes and understanding to the students of schools that contains all the information about computers. It is a way of knowing about the basic concepts of computers and easy ways to learn computer basic and advanced concepts. This app includes basics to advanced and updated computer shortcut keys, computer abbreviations, computer application and fundamentals of computer which can helps the students to do the work on computer quickly and also helps to perform tasks more efficiency after having knowledge on IT.

Literature Review:

1) Computer Science jobs are lucrative and rewarding
The constant development of new technologies also means that there's a constant demand for brilliant tech minds who can create, maintain, and fix both gadgets and code. This demand for qualified IT specialists means that Computer Science careers are well-paid. According to the US Bureau of Labour Statistics, there will be a 13% increase in Compuer Science jobs by

2026. You can notice a similar trend in the EU, where the number of ICT (Information and Communications Technology) specialists grew by 36.1% over 10 years (2007–2017).

2) ICT plays a role in students' achievement

Kulik's (1994) meta-analysis study revealed that, on average, students who used ICT-based instruction scored higher than students without computers. The students also learned more in less time and liked their classes more when ICT-based instruction was included. Since the students perform better in terms of academic field where ICT is included, So if an app is developed for IT field, it will serve as a platform for them to learn the basics of IT and excel in that field.

App Review:

Learn Computer Course – Offline

This app is fully functional even when you are not connected to the internet which is offline based. This software makes it easy to learn computer fundamentals and advanced concepts. This Computer Course (Learn Computer Course) program is for those who want to learn the fundamentals of computer operations. It is a beautifully designed app which is mainly focused on the following topics such as -Computer – Overview, Applications, Generations, Types, Components, CPU, Input Devices, Output Devices, Memory, RAM etc so that the users can know the functionalities of those and get interested in IT fields.

Current State of Art:

Currently, there is no such application for the students of grade seven to twelve to learn about the basics of computer in around the schools in Bhutan. The school is in the practice of using old manual system like using the text book where taught by teacher to the students in the class. So these creates the student difficult to understand as there is chance of missing the information given by the teacher in the class and lacks knowledge. Many students lack knowledge on IT and technology because of not having computer basics and due to the practice of traditional system of learning in the class with Teacher. To overcome those problem, I have created an app called 'IT for beginners' for easy learning without wasting time, they can open the app and learn the things related to IT without the need of textbooks, teachers and fixed subject time tables. After using the app, they will surely gain knowledge on computer and if they want to check the level of understanding, there is features like 'quiz' where they can solve problems related to IT. In a way it creates a good platform for the student to understand the basics about the computer.

C. **Challenges:**

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

Performance: make my app responsive and smooth.

Compatibility: run well in older version platform.

Hardware failures: It will cause problems if the hardware fails or crashes.

Security issues: Security issues can be a concern while developing an app.

D. **Motivation and Need:**

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

As there is no such mobile application for students to learn the basics of computer in around the schools in Bhutan and schools are in practice of old manual framework like using the content book where instructed by teacher to students within the course. So these makes the students difficult to understand as there's chance of missing the teacher's teaching and important information. Numerous students of school lacks knowledge on IT and innovation of not having computer basics due to hone of conventional framework of learning within the course with teacher. To those issue, there is need of such app for simple learning without sitting around, idly they can open the app and learn the things related to IT without the required of course readings and instructors. After using this app, students will without a doubt pick up information on computer and in the event that they need to check the level of understanding, there's highlights(feature) like 'quiz' where they can illuminate issues to IT. In a way it makes a great stage for the student to get it the essentials almost the computer. So thereby there is need of such app in schools.

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 create simple and interactive computer basic learning application for students.

OBJECTIVE:

- ❖ To provide students with a comfortable forum for studying the fundamentals of computers.
- ❖ To launch app in play store.
- ❖ To help students become more proficient in computer's learning.

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)

For the development of the android mobile app "IT for beginners", Agile Model will be used. These are the following actions that will be included:

Problem Statement
The traditional way of teaching in the class is not considered effective as it is exceptionally difficult for students to capture up within the class in a short duration and those students who complete grade 12 too appears to have no thoughts on IT with such sort of learning, subsequently it gets to be badly arranged with such sort of learning. In arrange to overcome those issues, IT for beginners' app will be created through which students can use anyplace and anytime not at like the school timetables.

Planning
In this phase, the team will discuss the overall idea and problems of the project and get the overview of it.

Requirement gathering and analysis
The requirements will be gathered through many ways such as previous research papers and surveys. After the requirement gathering is done, will study the problems in more detail. Then, the requirements will be documented in SRS (Software Requirement Specification) document.

Design
The design of the project will be prepared from the requirements specified in the previous phase. The design will include the prototype, architectural design, user interface design and database design.

Implementation/Coding
With inputs from design phase, the implementation of the project will start.

Testing
After the development, the product will be tested using various types of testing such as unit testing, integration testing, system testing and acceptance testing. If any functionality doesn't work properly, it can always go back and verify from the previous phase.
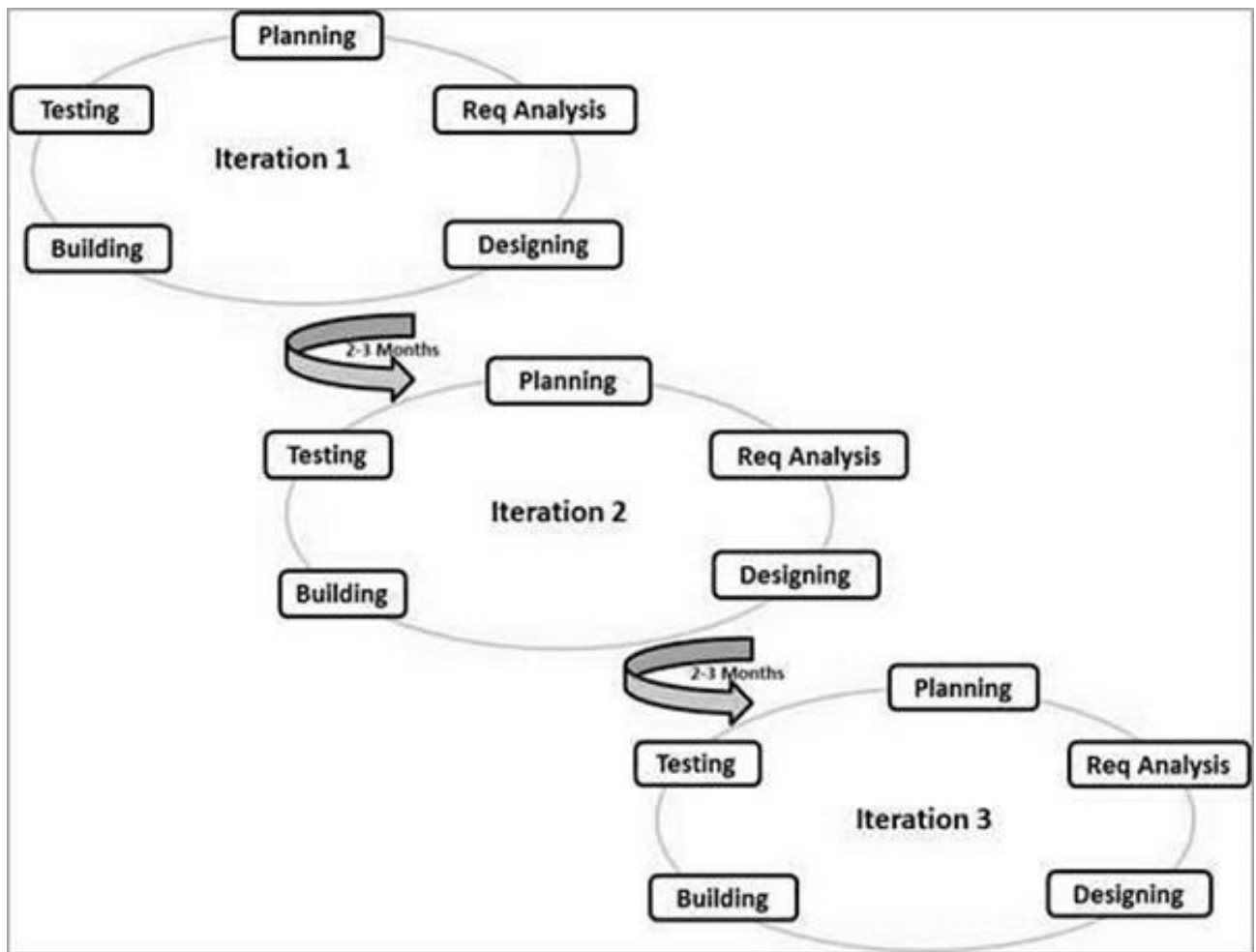
Agile model is a combination of iterative and incremental process models with focus on process adaptability by rapid delivery of working software product. It breaks the product into small incremental builds. These builds are provided in iterations. It encourages flexible responses to change.

The reasons for choosing Agile model for developing the app are:
- Small projects can be implemented very quickly.
- Errors can be fixed in the middle of the project.
- Flexible since requirements can be easily changed.
- Functionality can be developed rapidly and demonstrated.

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.)

1. **Installation of software and tools:**
Installation of Android Studio, Java Development Kit, Geny Motion and database server for the development of the app.

2. **Gathering requirements:**
Collecting all required information about the app from various means such as referring from books and video tutorials.

3. **Design phase:**
This phase is fully committed for designing user interface, database design and architectural design of the app using the information obtained from the previous phase.

4. **Development phase:**
The development of the app begins here with coding using android framework.

5. **Testing Phase:**
After the development of the app, the product will undergo various testing such as unit testing, integration testing, system testing, acceptance testing.

6. **Final Documentation:**
After all the phases are completed, then prepare the documentation and final report of our project.

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.	08/02/21-14/02/21	Topic selection	Project Topic
2.	15/02/21-14/03/21	Problem Statement and Literature Review.	Project Proposal
3.	15/03/21-20/03/21	Requirement gathering and analysis.	Documenting SRS document
4.	21/03/21-25/03/21	Software Installation	Setting environment for development.
5.	26/03/21-02/04/21	System Design	Architectural design, User Interface design, Database design, Prototype, ER diagram, Relational diagram
6.	03/04/21-10/05/21	Development/Coding	Source code and functional features implementation.
7.	10/05/21-15/05/21	Testing	Test case (Unit testing, Integration testing, System testing, Acceptance testing)
8.	16/05/2021-22/05/2021	Final documentation	Report Presentation

(Please add more rows if required.)

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

Expected output:
- An android mobile app for accessing computer basics learning.
- Project report.

Expected outcome:

- **Increase the productivity of students**: increase student's productivity with a good understanding of the software running on them, student become more productive at everything they do. For example, once basic have a basic understanding of using a word processor, they can create, store, edit, share, and print documents and letters.

- **Improves students' abilities:** poor grammar, not great at math, don't have a great memory, or need help with something else? Using a computer improves all student's abilities, or if they have a hard time learning, they can rely on the computer as an assistant.
- **Save time**: helps to perform any kind of task within short time.
- **Provide a user friendly 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):

Technical risk: There is medium technical risk since the technology needed to develop the app is not available. There is also high chance of hardware failure which causes crashing of the system.

Timing risk: In case of timing risk, there is a high risk as we cannot assure whether we will be able to complete the project as per the schedule.

Budget risk: My project does not have budget risk as we can use the free software which is available to develop the app.

Feasibility

"IT for beginner's" app is feasible, as there is no such app in Bhutan and due to modern world, everything works with advances where our lives have become exceptionally important to understand the basic of IT. Students will moreover be able to get it effectively the concept of computer and its working and there is unique feature like quiz to check their understanding on IT basic, in a way create an effective platform for students. Moreover, my app being user friendly, it suggests the users to induce it at any time not at just like the school timetables. So, thereby it is feasible.

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:

SI #   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)

Title	T/M	Start	End	Duration	%
Final Documentation	■T ▾	16/05/2021	20/05/2021	4 days	%
Testing	■T ▾	10/05/2021	17/05/2021	6 days	%
Development/Coding	■T ▾	03/05/2021	10/05/2021	6 days	%
System Design	■T ▾	26/03/2021	02/04/2021	6 days	%
Software installation	■T ▾	21/03/2021	25/03/2021	4 days	%
Requirement gathering and analysis	■T ▾	15/03/2021	20/03/2021	5 days	%
Problem statement and Literature review	■T ▾	15/02/2021	14/03/2021	20 days	%
Topic Selection	■T ▾	08/02/2021	14/02/2021	5 days	%

2021

| Feb | Mar | Apr | May |

- Final Documentation — 16 May - 20 May
- Testing — 10 May - 17 May
- Development/Coding — 3 May - 10 May
- System Design — 26 Mar - 2 Apr
- Software installation — 21 Mar - 25 Mar
- Requirement gathering and analysis — 15 Mar - 20 Mar
- Problem statement and Literature review — 15 Feb - 14 Mar
- Topic Selection — 8 Feb - 14 Feb
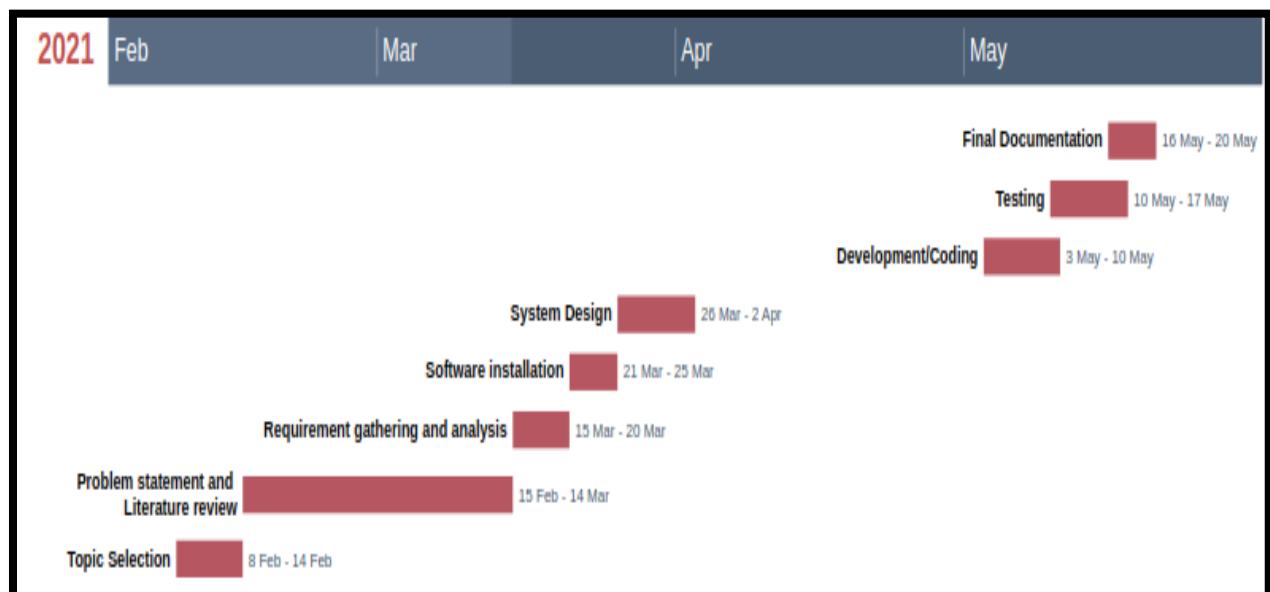
13. Report Writing Guidelines

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

Bibliography

Learn computer course - offline - apps on Google Play. (n.d.). Retrieved March 14, 2021, from https://play.google.com/store/apps/details?id=com.vimalcvs.computer

Top Reasons to Study Computer Science or IT. (n.d.). Retrieved March 14, 2021, from https://www.mastersportal.com/articles/426/top-reasons-to-study-computer-science-or-it.html

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