Proposal

For

Second Year Project

Bachelor of Science in Information Technology

Waitless(Doctor's Appointment)

Submitted by

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12190089

BSCIT Group B

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

Jigme Wangmo
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Note: To update the table of contents, right click in the table and select '*update field*' and then select 'Update Entire Table'.

Application for Final Year Project

1. Project Identification

A. Reference Number:

(for office use only)

B. Project Title:

Waitless(Doctor's Appointment)

C. Project Internal Guide:

Name:	Sonam Wangmo	
Designation:	Lecture	
Organization:	Information Technology	
Mobile # :	17391134	Tel. # :
Email:	Sonamwangmo.gcit@rub.edu.bt	

C1. Project External Guide:

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

C2. Student Group Lead:

Name:	Thinley Wangmo	
Roll No:	12190089	
Department:	Information Technology	
Mobile # :	17565638	Tel. # :
Email:	wthrinley@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.)

Doctor's Appointment, Waitless, Patient and Doctor.

F. Research and Development Theme:

To make it easier for people to get appointments without having to go to the hospital to get a token, and to remove the need for patients to wait in line to be diagnosed by a doctor. The patient can directly go to hospital at the confirmed date and time.

G. Project Status:

(Please mark ☑)

☑ New ☐ Modification to previous Project

☐ Extension of existing project

H. Project Duration:

Expected Starting Date:	9th February
Planned Duration in months:	Four months

2. Scope, Introduction and Background of the Project

A. Scope of the Project:

1. System scope

   To develop a mobile application with the following features:

   1) Online based.
   2) Details of patients.
   3) Appointment date and time.

To create a Doctor's Appointment app, it requires the user to provide personal information. While providing the details, the patient must include his or her name, phone number, age, gender, and symptoms that includes the current condition of the patient. The patient should also provide the medical history referring to the diseases that the patient has experienced by entering the name of a particular disease.

After entering the information, the user must enter a date and time for his/her appointment with the doctor. The receptionist will confirm this date and time with the information send by the user. If the doctor is available at the requested time, the patient will be contacted by the receptionist, and an email will be sent to the patient indicating which chamber he or she must visit.

2. User scope

   The main scope for this project is to build a user-friendly app that will help patients to get an appointment with the doctor at the requested date without physically going to the hospital and waiting in a line for long time to see a doctor.

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

Health services, such as hospitals, have been constructed in various parts of the country over the years. Health care service providers (hospital and hospital management teams) are considered as the blooming industry and are predicted to continue growing for the foreseeable future. It is important for the healthcare teams to provide a quality health care services and to promote and maintain health by preventing and managing diseases, reducing unnecessary disability and premature death to achieve health quality for all the living beings on this planet. As time passes, the digital age quickly enables users to take advantage of new technology and look for new ways to offer their services.

In this current situation, health care providers are under a great deal of pressure to reduce costs and improve quality of service provided. Patients waiting times as well as the waiting room congestion are two problems to be mentioned a few. Well-designed appointment systems (AS) have the potential to increase the utilization of waiting rooms as well as in reducing waiting times for patients. According to the research done by Huang (1994), it shows that excessive waiting time is often the major reason for patients' dissatisfactions towards the services provided the hospital management. Also, the reasonable waiting time are expected in addition to clinical competence.

After analyzing and studying the current situation of Mongar Regional Referral Hospital, when someone is sick and needs to see a doctor for a checkup, they must go to the hospital and wait for the doctor to become available. In order to get an appointment, the patient must also wait in a line. If a doctor cancels an appointment due to an emergency, the patient will not be aware of the cancellation until he or she visits the hospital physically. Since mobile communication technology is rapidly evolving, it is possible to use mobile apps to solve certain problems and inconveniences for patients.

Therefore, after finding out the above-mentioned problems, to provide a solution to it, android based "Waitless" application is to be developed where it overcomes those problems by providing a platform for users to enter the details of the patient along with the date to meet a doctor in a digitalized way.

Literature Review

Related Mobile App review

a) Doctor Appointment Lite

Doctor Appointment Lite is a free app that helps users recall important doctor appointments and hospital visits. The app contains a feature that alerts users of their appointment day. It produces and attaches appointments to all of your calendars automatically. The application is really easy to use. It allows users to enter the Doctor's Name, the Doctor's/Hospital/Clinic Address, and the Appointment Information. To provide better result to customer this application is integrated with Google Analytics. Also, users' appointment information is stored on the server and is not shared with anybody but the owner.

b) HealthTap – 24/7 Telemedicine

Healthcare mobile apps link physicians with patients who need assistance, easing the pressure on healthcare providers. For example, the HealthTap mobile app connects patients to certified doctors via phone, text, or video call 24 hours a day, seven days a week. Doctors uses these app to learn about their patients' symptoms and issue a digital prescription (if required). HealthTap will build your health record and store all your data in one place. This app takes privacy very seriously and your visit to the doctor is confidential. Therefore, this app is secure and confidential.

c) Practo: Online Doctor Consultations & Appointments

Practo is a health app where user can ask a doctor free health questions and get expert answers to your health queries. It provides with a feature where they can treat health issues and symptoms via video consultation or through online doctor chat. It helps you to connect with the best doctor within a minute. Not only that users can also book appointment from the comfort of home The Practo app has many users, but privacy is a concern.

Current State of Art:

In this current state, we can see that the patients come early even before the hospital hour and waits to get the token so that they don't miss out their appointment with the doctors for checkup. Also, when someone is sick and needs to see a doctor for a checkup and unfortunately, if a doctor cancels an appointment due to an emergency, the patient will not be aware of the cancellation until he or she visits the hospital physically. Some after waiting for a whole day, they don't get to meet doctor especially when there is a lot of patients waiting ahead of them. It makes a tedious work for the patients when they were not able to meet the doctors and have to go back and come again tomorrow. It will eventually lead to more expenditure in travelling all the way to the hospital along with lots of time consumption as well. Also, to look from the hospital management side, due to large number of patients lining up, it will make the area congested and more works for the staffs as there will be a lot of noise and littering around the waiting room where the staffs have to respond to every individual, control them and clean at the end.

C. Challenges:

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

1) Security – security can be a nagging concern while developing a mobile application since I may face difficulties to keep source code and user data safe.
2) Performance – make my app responsive and smooth.
3) Compatibility – run well on older versions of platform.

D. Motivation and Need:

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

COVID-19's outbreak has prompted me to consider this app. A virus can spread at any time and from any place. Viruses, as well as illnesses such as airborne diseases, may be transmitted. As a result, this app can assist people in scheduling appointments with doctors without having to deal with others. If there isn't an emergency, a doctor's appointment app will save people time waiting in lines at hospitals.

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 Doctor's Appointment android mobile application also known as waitless app.

OBJECTIVES:

The following are the objectives in developing Doctor's Appointment app to work in android phones:

1. To design and develop an easy to use and understandable mobile application.
2. To develop an android application to meet with the referred doctors directly without waiting in lines.
3. To help people from rural areas where there is only BHU to visit the main hospital or regional referral hospital by making appointment and visiting in the date requested by the patient there by reducing efforts and time eventually.

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)

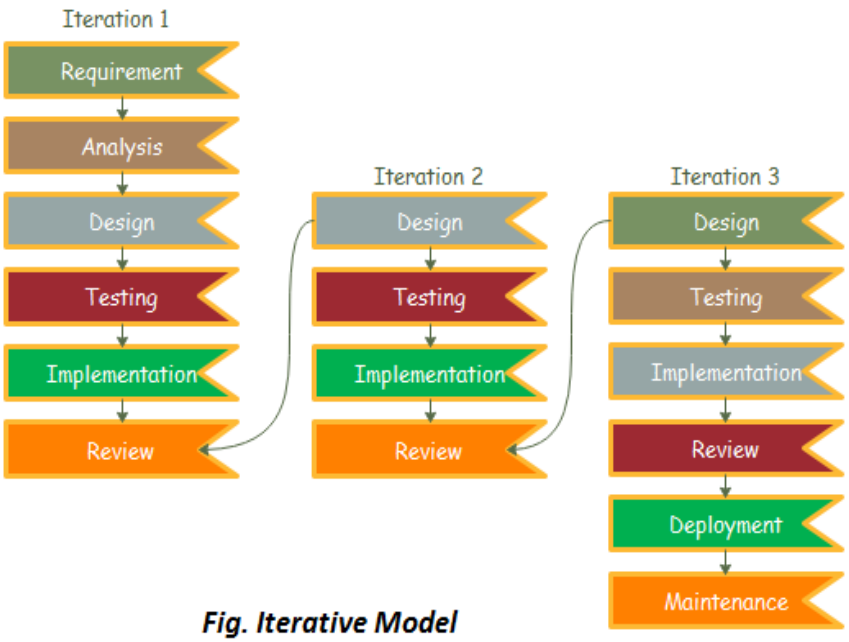


Fig. Iterative Model

In iterative model, iterative process starts with a simple implementation of software requirements and iteratively enhances the evolving versions until the complete system is implemented and ready to be deployed. At each iteration, design modifications are made and new functional capabilities are added. The basic idea of iterative model is to develop a system through repeated cycles. It will help in building the app through each iteration, I will be able to detect any shortcomings or defects that needs to be corrected and altered.

Iterative model was chosen to generate working software early in the software life cycle. It requires more flexibility and low cost to change scope and requirements. Easy to test and debug during a small iteration. The risky part that has been identified will be processed during that iteration.

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. Feasibility Study – Through review on the different mobile app.
2. Installation of software and tools – Installing android studio version (3 and above), Java Development Kit (v8 or more), database server and VS Code.
3. Resource gathering - Books, tutorials videos, online reference related to android app development and XML.
4. Design Phase – 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.
5. Development of the product – The development of app begins here with coding using android.
6. 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.
7. 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.

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*	
1	9/2/21 – 23/2/21	Topic Selection	Accepting the topic by the tutor.
2	25/2/21 – 14/3/21	Brainstorming and feasibility study.	Project Proposal.
3	15/3/21 – 25/3/21	Requirement gathering and Analysis.	Software requirement gathering document and prototype development.
4	26/3/21 – 30/3/21	Software Installation	Setting environment for the development.
5	31/3/21 – 10/4/21	System Design	ER Diagram, Use case, and data flow diagram.
6	11/4/21 – 5/5/21	Development/coding	Source code and functional features implementation.
7	6/5/21 – 15/5/21	Testing Implementation	Test case
8	16/5/21 – 22/5/21	Final Documentation	Documentation ready/ presentation

(Please add more rows if required.)

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

The benefits from this project are:

1. The time saving factor for patients.
2. Huge reduce in waiting time.
3. It focuses on assisting patients in finding a doctor quickly.

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: Technical failure such as corruption of files, OS crash may occur.

Timing risk: Time needs to be spent on learning android development, on research, content part of the app.

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.

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

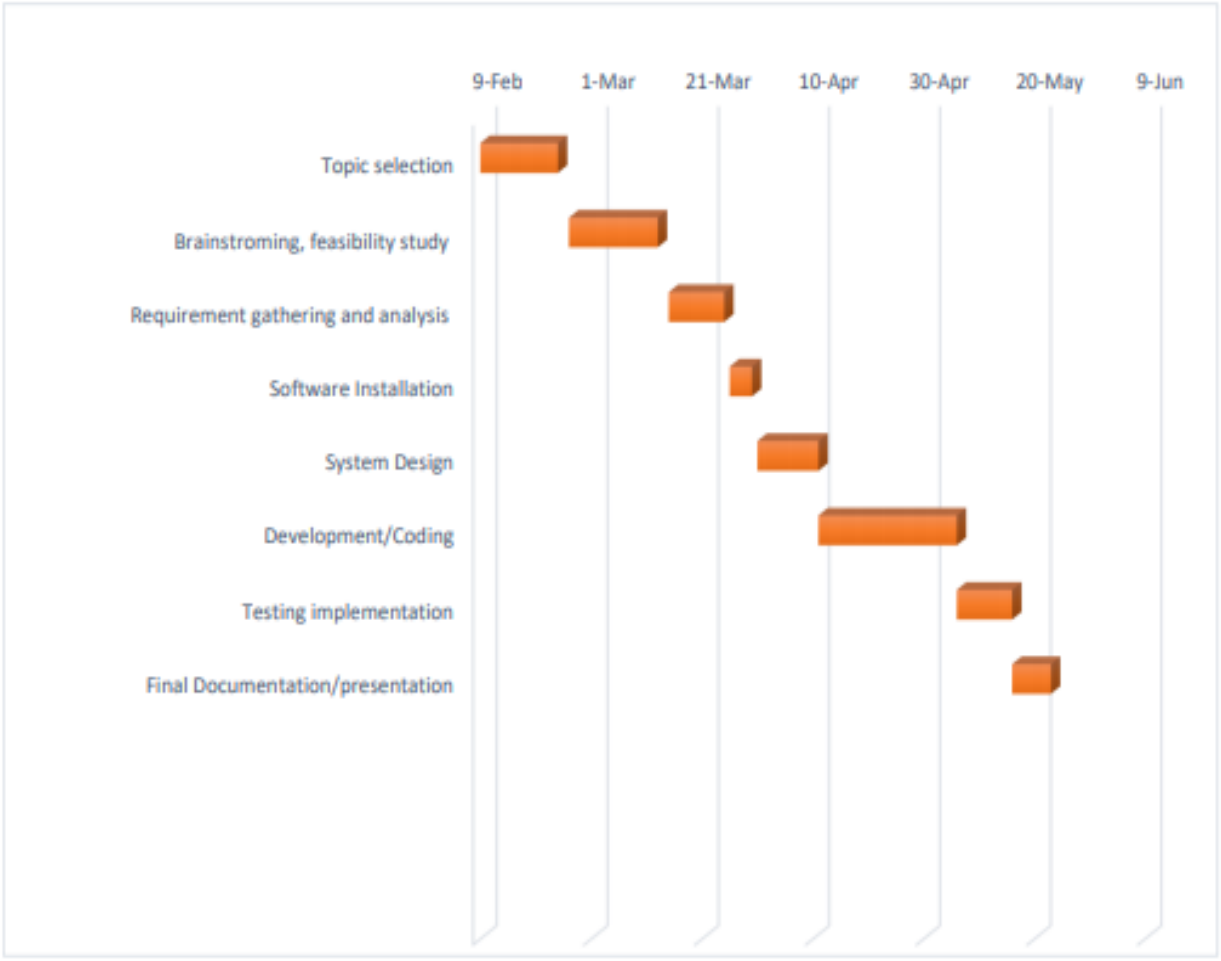
& stamp:

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)

Task Name	Start	Finish	Days
Topic selection	9-Feb	23-Feb	14
Brainstroming, feasibility study	25-Feb	14-Mar	16
Requirement gathering and analysis	15-Mar	25-Mar	10
Software Installation	26-Mar	30-Mar	4
System Design	31-Mar	10-Apr	11
Development/Coding	11-Apr	5-May	25
Testing implementation	6-May	15-May	10
Final Documentation/presentation	16-May	22-May	7



13. Report Writing Guidelines

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

Bibliography

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