

**MicroLink Information Technology College**

**Department of Computer Science**

**Web Based E-Health System**

**Project Proposal Document (PPD)**

**For Addis Hiwot General Hopital**

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# Background

E-Health is a wide word that refers to the technology and infrastructure that are used to capture, analyze, and communicate patient health data. The goal of health is to offer better treatment for patients and to contribute to health fairness. It enhances healthcare delivery quality, boosts patient safety, reduces medical mistakes, and strengthens interactions between patients and healthcare professionals.

The "online Doctor Appointment system" was created to overcome the challenges that existed in the conventional manual approach. This program is supported in order to remove and, in certain situations, decrease the difficulties encountered by the current system. Furthermore, this system is built to meet the specific needs of the firm in order to carry out activities in a smooth and effective manner.

If a person becomes ill and want to see a doctor for a checkup, he or she must go to the hospital and wait until the doctor becomes available. While waiting for an appointment, the patient simultaneously waits in line. If the doctor cancels the appointment due to an emergency, the patient will not be aware of the cancellation until and until he or she attends the hospital. Because mobile communication technology is continually evolving, web apps may be used to alleviate such challenges and inconveniences for patients.

Patient Doctor Follow Up is application that allows patient to communicate with their doctors in an efficient and easy manner. The application gathers all of the patient’s information, including the kind and stage of the condition. The patient ask the doctor the specific question at any moment and application sends all of the patient’s questions to the doctor and the doctor can send response to all patient’s questions. The patient can view all the details of the response given by the doctor.

# The Existing System

The existing system of Addis Hiwot General Hospital

**Manual Appointment System**

Medical appointments have typically been made via telephone or in-person with schedulers. These methods are based on real-time verbal communication and allow for maximum flexibility in difficult situations. Because these old methods rely on schedulers, the ability to get an appointment on time is limited not only by the availability of appointment times but also by the availability of schedulers and phone lines. The ability to book at the proper time with the right health service providers has an impact on patient satisfaction with appointment scheduling.

**The Traditional way of Patient Doctor Follow Up**

Patients are unable to contact directly with doctors under the current system. It takes a long time to respond to the patient. There is very little dialogue between the patient and the doctor. Patients must physically travel to the doctor, which requires a significant amount of time and effort.

## Problems of the Existing System

- Data entry inconsistency, the potential for errors, mis keying information

- Extensive continuous training costs for employees.

- The system is predicated on excellent people.

- Reduction in information sharing and customer service.

- Reports are time-consuming and pensive to produce.

- difficult to change the appointment date

# The Proposed System

We have proposed a system that will solve the above problems mentioned.

**Online appointment is the proposed system**

The proposed system will allow people to make appointments online to Doctor or Physician at any time and from any location with an internet connection.

**Patient Doctor Follow up**

The suggested approach ensures effective communication between the patient and the doctor. The patient can save a significant amount of time and physical effort in obtaining a remedy from the doctor.

With the assistance of a doctor, the program collects all of the patient's data and determines the best treatment for his disease. The suggested approach allows patients and physicians to receive responses quickly and without wasting time or effort.

## General Objective

This project has the general objectives of developing a web-based E-health System for Addis Hiwot General Hospital. The project is primarily concerned with the patient. As a result, we aimed to help patients make online appointments with doctors and patient doctor follow up.

## Specific Objective

* To develop an online Doctor Appointment system
* To eliminate time-consuming
* Shows the information and description of the Doctor
* To make patient change schedule (date) any time
* To make patient ask question doctor or physician
* To make doctor follow up patient

## Significance of the Project

* it allows to book whenever you like
* it saves time for patients and doctors
* reduces burden of some administrative tasks for staff.
* follow-up can help reduce hospital re admissions
* Daily, weekly and monthly patients scheduled are easily viewed.
* it helps patients after their visit to talk about their status or ask question to doctors

## Scope of the Project

Build for General Hospital. The proposed system replaces traditional booking chaos with online facility. System allow patient the power to book their own appointment with respective doctor online that benefits organizations to manage a time. Patient can give his/her status to doctor after they meet and ask different question doctor, he/she choose.

The Limitation of this project when a patient attempts to schedule an appointment, the system fails in areas where there is no Network. This system does not handle day-to-day hospital management concerns such as payment and billing, card creation, personnel management, and so on.

# Methodologies and Techniques

* Waterfall Model

1. Requirement Analysis
2. System Design
3. Implementation
4. Testing
5. Deployment
6. Maintenance

Waterfall model is most appropriate

* Requirement are very well documented, clear and fixed
* Product definition is stable
* Simple and easy to understand and use
* Easy to manage due to the rigidity of the model

1. **Requirement Analysis and Gathering**

During this phase, all potential system needs are identified and recorded in a requirement specification document.

1. **System design**:

This phase studies the need specifications from the previous phase and prepares the system design. System design aids in the specification of hardware and system requirements, as well as the definition of overall system architecture.

1. **Implementation:**

The system is first built-in tiny programs called units, with input from system design, and then combined in the following step. Unit Testing is the process through which each unit is designed and tested for functioning.

1. **Testing:**

After each unit has been tested, all of the units built during the implementation phase are merged into a system. Following integration, the complete system is tested for flaws and failures.

1. **Deployment of system**:

Following the completion of functional and nonfunctional testing, the product is deployed in the client environment or launched to the market.

1. **Maintenance**:

There are a few difficulties that arise in the client environment. Patches have been provided to address these problems. In order to improve the product, newer versions are published. Maintenance is performed in order to implement these modifications in the client environment.

## Data Collection Methods and Techniques

Because the project will focus on healthcare, hospitals, clinics, and other health care institutions will be the primary locations where we will gather the majority of the project's data. The process of requirement analysis and elicitation will be carried out through observation and interviews.

## System Analysis and Design and Development Tools

We plan to use different tools for the system design and analysis of the project. It will be used for:

* LibreOffice - to prepare requirement analysis document.
* Draw.io - as a UML tool for system analysis and design phase since this
* Tool will be fully object-oriented feature that helps for the preparation of system design document (SDD).
* Gantt - to produce the Gantt chart for the schedule of the project.
* Uxpin – to develop the designed user interface.

**Development Tools**

* For the front end, we plan to use HTML, CSS, BOOTSTRAP, JAVASCRIPT**.**
* On the back-end side, we plan to use PHP**.**
* On the database side we will use relational database which is MySQL.
* We will use Flutter to develop applications for android. is an open-source mobile application development SDK.

## Team Structure

|  |  |  |
| --- | --- | --- |
| **Staff** | **Responsibility** | **Remark** |
| Dawit Tadesse | Project Manager |  |
| Eyosiyas Nigussie | System Analysis |  |
| Biruk Endalew | Programmer |  |
| Yohannes Melese | Database Admin |  |
| Kirubel Maregn | Documentation |  |

# Project Plan

## Resource Requirement

This project requires the use of the materials mentioned below in order to be completed effectively.

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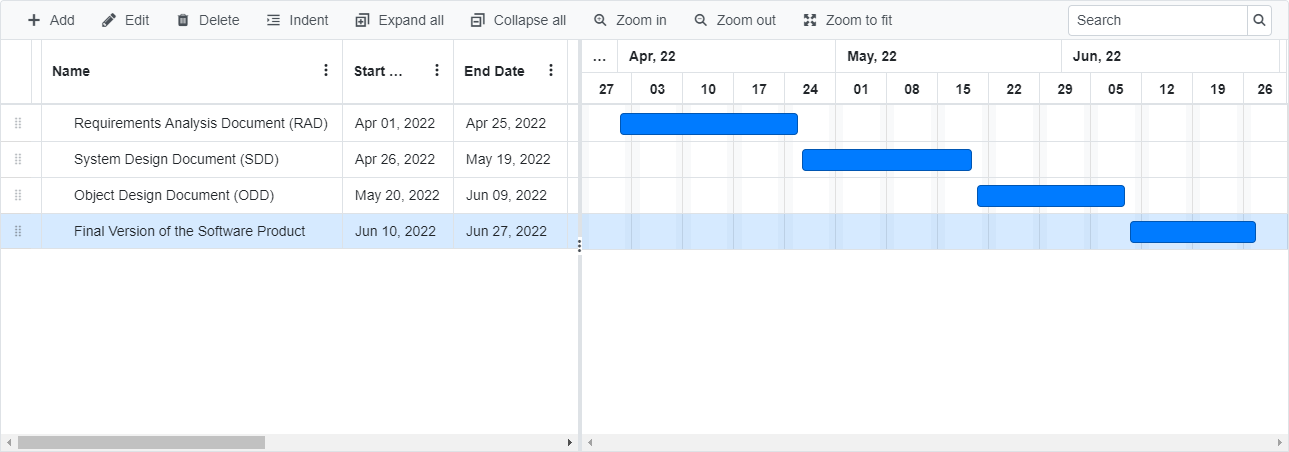
1. Laptop (Core(TM) i7-3632QM CPU @ 2.20GHz, 2201 Mhz, 4 Core(s), 8 Logical Processor(s), 8GB RAM, 1TB HDD, and Windows 10 operating system)
2. Mobile Phone (Processor- 2.0GHz OCTA-CORE RAM 3GB, OS Android7.0)
3. Software
4. Network cable
5. External Hard Disk (HDD 200GB)
6. Internet and stationery

## Project Cost

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item List** | **Quantity** | **Unit Price** | **Total Price/ETB** | **Remark** |
| **Laptop Computer**  Core(TM) i7-3632QM CPU @ 2.20GHz, 2201 Mhz, 4 Core(s), 8 Logical Processor(s)  RAM 8GB, HDD 1Tr | 1 | 30,000 | 30,000 |  |
| **Mobile Phone**  Processor- 2.0GHz OCTA-CORE  RAM 3GB, OS Android7.0 | 1 | 14,000 | 14000 |  |
| **External HDD**  500GB | 1 | 2000 | 2000 |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Software**  XAMPP  Visual studio  Ultimate 2012  Android Studio | - | - | 1000 |  |
| **Network Cable** | 2 meters | 100 | 200 | Cat 6A Full copper |
| RJ 45 | 2 | 5 | 10 |  |
| Mobile internet monthly package | 2 months | - | 1400 |  |
| Stationery | - | 500.00 | 500.00 |  |
| Transportation | - | 600 | 600.00 |  |
| Reserve | - | 1500 | 1500 |  |
| Total |  |  | **51,210 ETB** |  |

## Schedule



## Possible Risks and Mitigation Plans

This section outlines the potential hazards you anticipate throughout the creation of the new system, as well as potential mitigation strategies.

|  |  |
| --- | --- |
| Risks | Mitigation Plans |
| 1.Time constraint | By dividing the assignments within members, we plan to do activities that can be done simultaneously without waiting the other activity’s current status |
| 2. Coding problems when applying | Search for solutions, look into other references and watch YouTube tutorials. |

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| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Submitted By:**   |  |  |  |  | | --- | --- | --- | --- | | **No.** | **Student Name** | **Signature** | **Date** | | 1. | **Biruk Endalew** | \_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_ | | 2. | **Dawit Tadesse** | \_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_ | | 3. | **Eyosiyas Nigussie** | \_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_ | | 4. | **Kirubel Maregn** | \_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_ | | 5. | **Yohannes Melese** | \_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |  | | | | |  | | | | | **Approved By** | | | | |  |  |  |  | | 1. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |  | Advisor | Signature | Date | |  | | | | | 2. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |  | Department Head | Signature | Date | |  | | | | |  | | | | |  | | | | |  | | | | |  | | | | |