A Minor Project Proposal Report On

ARMY TRAINING ACADEMY WEBSITE

Submitted in partial fulfillment of the requirements for
the degree of **Bachelor of Computer Application**
under Pokhara University

Submitted by:

Ashish Raj Shikhrakar, 192004

Bhishma Poudel, 192006

Keshar Narayan Shrestha, 192013

Saurav Shakya, 192025

Date:

04/06/2023

Department of Bachelor in Computer Application

NEPAL COLLEGE OF INFORMATION TECHNOLOGY

Balkumari, Lalitpur, Nepal

Table Of Contents

Abstract

The project proposal outlines areas to consider while developing a training academy website**.** The proposal focuses on users' requirements and the needs of targeted users. The main features provided will be the form application, content briefing, results/schedule upload, and handling of the form applications. This project is based on research, analysis, and design to develop a user-friendly, quality, and efficient website that can handle its database system without hassle. The project will follow the iterative waterfall methodology including phases like planning, designing, development, testing, implementation, deployment, and maintenance. HTML/CSS and javascript are the primary languages used in the development of the website. GitHub will be the main version control system used and Figma will be the design tool used to create a compelling UI/UX. The website will be designed to ensure compatibility across multiple devices and browsers. Navigation, engaging visuals, and interactive features will be a priority. The deliverables of this project include a fully functional website that handles applications effectively, showcases its training and services, validates the information in forms, and promotes the website. The project is a valuable digital asset that enables improved continuous engagement, trainee acquisition, and growth of the organization. By considering the significance of user needs, implementing modern design practices, use technologies to achieve optimal results the project can promote growth and eliminate the tedious paperwork for the organization and travel costs for the clients. This project proposal highlights the importance of a well-designed and functional website for the organization.[1]

Keywords: Training Academy Website, Form Application Handling, Schedule, Iterative Waterfall Methodology, Flexibility, Html/CSS, Javascript, Github, Figma, Mysql, Validation, Familiarity, Integrated, Synthetic Testing, Usability Testing, Navigation, Optimization, Digitized. Promotion, CRUD Operations

Problem Statement

The current absence of a well-designed and functional website for the organization hinders its growth and imposes burdensome paperwork on staff and travel costs on clients. Without a good website, failure to meet the needs of users and limitations of trainee acquisition become evident. A user-friendly, quality, and efficient website that can effectively handle form applications, showcase training and services, validate form information, and promote the organization is a must to eliminate human errors and such. Addressing these issues, the organization will overcome physical limitations to enhance growth.

Literature Review/Study

This Training academy is essential for personal growth as they help people learn valuable skills, gain confidence, make connections, develop themselves, increase job opportunities, and continue learning throughout their lives. Below are some websites/apps that share this same sentiment and have similar ideas integrated into their websites.

1. **Gurkha Action Pre-Military Training Academy**
   The Gurkha Action Pre-Military Training Academy is a respected academy that helps people prepare for military careers, specifically Gurkhas. The academy offers tough training programs focused on physical fitness, mental strength, and leadership skills. Experienced instructors teach various subjects like fitness, weapons, tactics, and navigation. Students learn discipline, and teamwork, and develop good character. They also practice in realistic settings, like obstacle courses and simulations.

   A pre-military training academy typically focuses on improving physical fitness through rigorous exercise regimens, endurance training, and strength conditioning. This helps prepare individuals for the physical demands of military service. Academies often emphasize mental toughness and resilience to prepare individuals for the demanding and challenging nature of military service. This may include stress management, mental conditioning, and coping strategies.

2. **Gurkha Victory Training Center**

   The Gurkha Victory Training Center is a well-known place where Gurkha soldiers receive specialized training. The center focuses on improving combat skills, fitness, and mental strength. Experienced trainers, many of whom are Gurkhas themselves, teach subjects like shooting, close combat, and tactics. Gurkha victory training center also emphasizes important values like bravery, discipline, and teamwork.

   The training center should possess an ample supply of firearms, ammunition, and safety gear to facilitate safe handling and marksmanship training. Additionally, they should provide equipment for physical conditioning exercises, navigation practice, and other specialized training needs.

   However, our training academies have assessment and evaluation processes to gauge the progress and performance of their students. These assessments may include written exams, practical exams, physical fitness tests, and evaluations of skills and knowledge learned during the training program.

   The specific details of the exams, grading criteria, and result reporting can vary from academy to academy. It's best to contact the Army training academy directly for accurate and up-to-date information about their specific examination and result processes. They should be able to provide you with the necessary details regarding how exams are conducted, what subjects are covered, how results are calculated and reported, and any other relevant information related to assessments and results.

We aim to provide similar services to the above websites in addition to result publications and time schedules that provide a quality of life change by making it easier for clients.

Project Objective

Digitization of forms and paperwork to eliminate tedious manual labor

The objective of converting paperwork into a digital database system is to make user validation and error handling easy by implementing real-time validation to detect errors through the system or missing information that users fill out the form, as well as human fault minimization due to burnout or various other reasons. Our aim is to make form applications accessible to all.

Significance of the study

The proposed training academy website attempts to meet the needs of users and provide a user-friendly, efficient platform for handling form applications and displaying training services. This project holds significant value as it promotes growth by allowing for continuous engagement, and broader trainee acquisitions. The project eliminates tedious paperwork and reduces travel costs for clients. The website's compatibility across devices and browsers, appealing UI, and interactive features prioritize a seamless user experience. The main emphasis of this project is a well-designed and functional website to allure people to apply.

Scope And Limitations

Scope:

The project pertains to allowing users to form applications, view time schedules, and results, find more information about the academy, and interact and communicate with the academy. On the admin side, CRUD operations, managing forms, and tweaking results and schedules will be the basic functionalities offered.

Limitations:

- Internet connection is necessary so rural areas cannot benefit from the website
- Doesn’t deal with payment for the training course on the website
- Not a learning management system, so documentation, tracking, reporting, and delivery of educational courses are not available

Proposed Methodology/Technical Description

Taking into consideration the requirements available to us, and the work schedule available to us, the team has decided to complete the project using the Iterative Waterfall methodology.

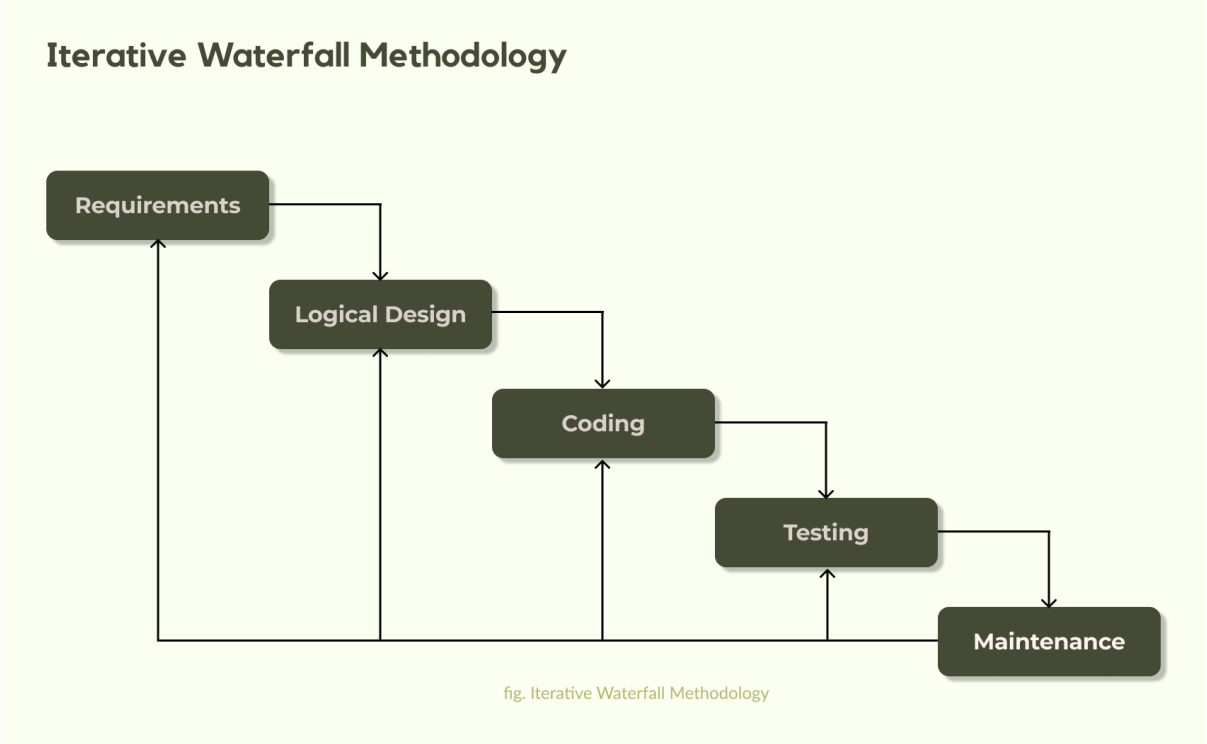

fig. Iterative Waterfall Methodology

The simplicity and easiness of waterfall methodology along with the flexibility to return to previous phases for minor changes which was a limitation of waterfall methodology, the iterative waterfall model provides us with a stable and swift working environment.

1. **Requirements Phase:** Collecting information and requirements for the project to understand and visualize the process of project completion
2. **Logical Design:** Designing the overall structure and functionality of the project that can be followed to create a working prototype
3. **Coding:** Coding the project to be applicable and usable
4. **Testing:** Testing the written code to gauge if the product meets the requirements and is up to the standards
5. **Maintenance:** Implementing the product and providing required services for it to run without hassle

Tools For The Project

1. **Visual Studio Code:**
   With ample extensions and resources and a massive community to rely on for support, VS code is a no-brainer as an IDE. The familiarity with the IDE on top of the aforementioned benefits made the decision a lot easier.

2. **HTML/CSS**
   HTML will be the markup language used to create the bare bones of the website and to make the website operational.

   CSS will be used for implementing the UI/UX designs of the website to enhance user experience and create eye-catching web pages. It will also be used to create a consistent look and feel for the website.

3. **Javascript**
   Javascript will be used as the scripting language to introduce interactivity and functionality to the website. It will make the implementation of security and other integral functionalities of the website possible and better prepare it for a smooth real-world transition.

4. **MySQL Or MongoDB**
   MySQL or MongoDB will be our standard for the database management system used depending on the use of node.js in the project to store and retrieve data from. These are familiar database management systems that can be easily integrated into the website.

5. **Figma**
   Figma will be the primary tool for logical designs and interfaces of the website. The UI/UX of the website will be imagined and created in Figma to create an optimal product that is easy to use and visually pleasing as well.

6. **GitHub**

   GitHub will be the primary version control system and collaborative internet service for software development used by the team to complete the project. The experience with the software and the resources from the dedicated community of Github will be valuable resources for us and the completion of this project.

7. **Php**

   Php will be the server-side scripting language used for the backend of this project as it has great community support but more importantly it is a language that the team finds comfortable and familiar to use.

Performance Analysis Methodology And Validation Scheme

The project, which primarily focuses on form submissions and user experience, will require performance analysis and validation schemes to properly implement the website and make it usable.

Performance Analysis for the project will focus on the website and server load time and validation schemes will be necessary for correcting forms before submission.

Performance Analysis Methodology

1. **Page load time:** Measure the time it takes for a webpage to fully load in the browser
2. **Server response time:** Measure the time it takes for the server to respond to a user's request
3. **Render time:** Measure the time it takes for the browser to render the webpage after receiving the necessary resources
4. **User feedback:** Collect feedback from users about their experience with the website, using surveys or other means

Validation scheme

- Use synthetic testing[2] to prevent performance-related, functional, and other issues before real users encounter them
- Use usability testing to see how users operate and navigate through the website to extract information for improvements
- Conduct A/B testing to compare the performance metrics before and after certain changes to features/website
- Compare user ratings with website performance to validate the correlation between performance and user experience

Iterative refinement

Since the validation and analysis schemes are iterative in nature, we must continuously monitor website performance and collect feedback from users to identify areas for improvement. We can then refine the performance using the insights gained from previous analyses.

With the information gathered, we can gain valuable insights into the performance of the website, identify areas for improvement, and ensure that the website meets the performance expectations of its users.

Proposed Deliverables/Output

The following are the proposed deliverables of our project that we hope to achieve:

Home Page

- Visually appealing homepage design that exhibits the website's purpose clearly
- Intuitive navigation system for navigating through the website with ease
- Integrating social media links for exposure of the website

Application Form

- Form to apply for the training academy
- Easy-to-use and simple-to-understand format
- UI to manage form applications for admins

Admin view

- Admin view of the website to access CRUD operations
- Ability to manage form applications

Results publication/view

- Page to publish and view results (past and present)
- Deletion of results in case it's necessary

Responsive design

- Responsive and optimized website for different screen sizes and devices (desktop, mobile, tablet)
- Consistent user experience across different devices, with easy navigation and eligible content

Validation and Performance

- Optimization of website performance, including fast loading times and minimal downtime
- Validation of form applications on the client side to ensure erroneous forms are not accepted

The proposed deliverable provides a well-designed and user-friendly website for applying to the training academy and reviewing the applied forms. It will provide a consistent experience for the users and digitize the tedious manual effort in form applications like travel and heaps of paperwork.

Project Task And Time Schedule

This Gantt chart represents a project timeline with various tasks and their progress for the months of May, June, July, and August in 2023.

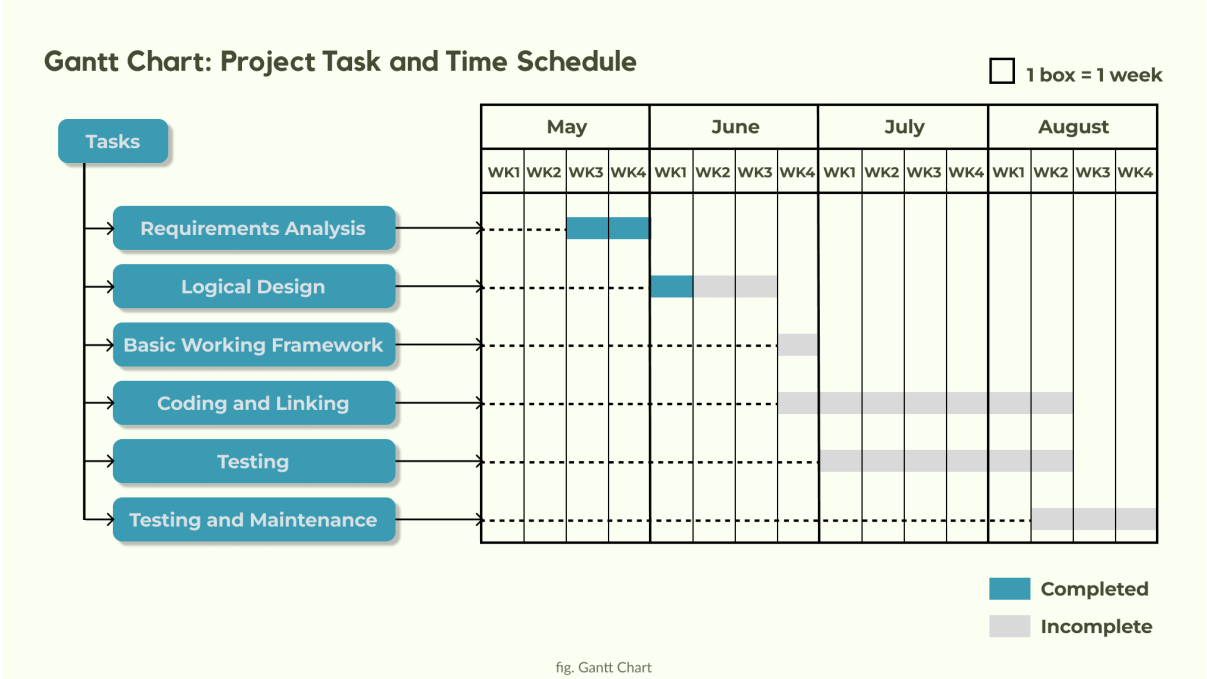

fig. Gantt Chart

Every box in the chart represents approximately a week of the month. Starting from the requirements phase of the waterfall we hope to conclude the project in 4 months. From the 3rd week of May when we started the project, we have thoroughly analyzed the requirements and designed a part as a reference. Other tasks are yet to be followed.

Bibliography/References

- [1] S. McCombes and E. Ryan, "Scribbr," Feb. 28, 2019, revised June 2, 2023. [Online]. Available: https://www.scribbr.com/dissertation/abstract/

- [2] A. Monus, "Synthetic Testing: A definition and how it compares to Real User Monitoring," *Raygun Blog*, Feb. 9, 2022. [Online]. Available: https://raygun.com/blog/synthetic-testing/