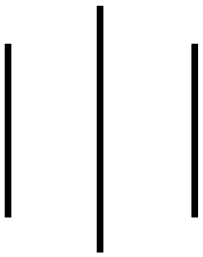
LA GRANDEE INTERNATIONAL COLLEGE

Simalchaur , Pokhara Nepal

A Project Proposal

On

IMAGE FILTER



Submitted to:

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In partial fulfillment of the requirements for the degree of BCA under

Pokhara University

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1. Introduction

In today's digital era, the field of image processing plays a pivotal role in numerous domains, including photography, computer vision, medical imaging, and graphics. The ability to manipulate and enhance digital images has become a fundamental requirement in these fields. To meet these demands, this project proposes the development of an advanced image filtering application using the vb.net programming language.

Image filters are the algorithms used to enhance or modify digital images. They can be applied to images in various ways to change their appearance, emphasize certain features, or remove unwanted elements. Image filters have many applications in fields such as photography, video processing, computer vision and graphic design.

The current market offers various image editing software, but many of them are either resource intensive, expensive, or lack the level of customization required by professionals and enthusiasts. This project seeks to address these limitations by developing a lightweight and cost-effective solution that can be easily integrated into existing workflows.

2. Problem Statement

The problems for selecting image filter as our project are listed:

- Existing image editing tools often come with complex interfaces, heavy resources requirements, and high costs. They may also lack specific features or customization options.
- This project addresses these issues by developing a lightweight and efficient image filter application that can run on resource constrained devices while providing essential image editing capabilities.
- In digital imaging technology, many images still suffer from poor quality due to issue such as noise, blur, or incorrect color balance. This can make it difficult to analyze, interpret, or present visual data accurately and effectively.
- Many programs are seen with different features which may be difficult to use, this program is maintained to use in a user friendly way.

3. Objectives

The main objective to develop this system are:

- To create a fast, memory-efficient image filter app using vb.net, featuring cropping, blurring, and basic filters, with robust error handling and format compatibility.

- Design a simple, user-friendly interface for effortless interaction, focusing on ease of use and intuitive functionality.

4. Methodology

For the development of IMAGE FILTER software we use the agile methodology Agile model starts with a simple implementation of a subset of the software requirements and iteratively enhances the evolving versions until the full system in implemented.

Figure 1: Agile Methodology

- ✓ Inside requirement gathering phase our team defines the requirements for an efficient, image filtering application based on market gaps highlighted in existing software. We assess resources, time, and effort required for development while evaluating technical and economic feasibility.

- ✓ In the system design phase, we will use system design tools like DFD, E-R diagram, and flowchart and build a conceptual model of the system.

- ✓ On the beginning of the development phase, we'll focus on essential functionalities such as cropping, blurring, and basic filters, ensuring simplicity and efficiency. Through iterative processes, we'll enhance features while maintaining performance standards.

- ✓ In the testing we will conduct rigorous testing to validate the application's performance and functionality, identifying and resolving any issues or bugs. We will ensure the application meets quality standards and provides a seamless user experience.

- ✓ In Deployment phase we'll deploy the finalized application to users' work environments, ensuring compatibility with different systems and providing necessary support for smooth integration.

- ✓ In the review phase we'll evaluate the application's usability and effectiveness. Using this feedback, we'll make iterative improvements, addressing any identified areas for enhancement or refinement.

5. System Diagrams

7.1 Flow Chart

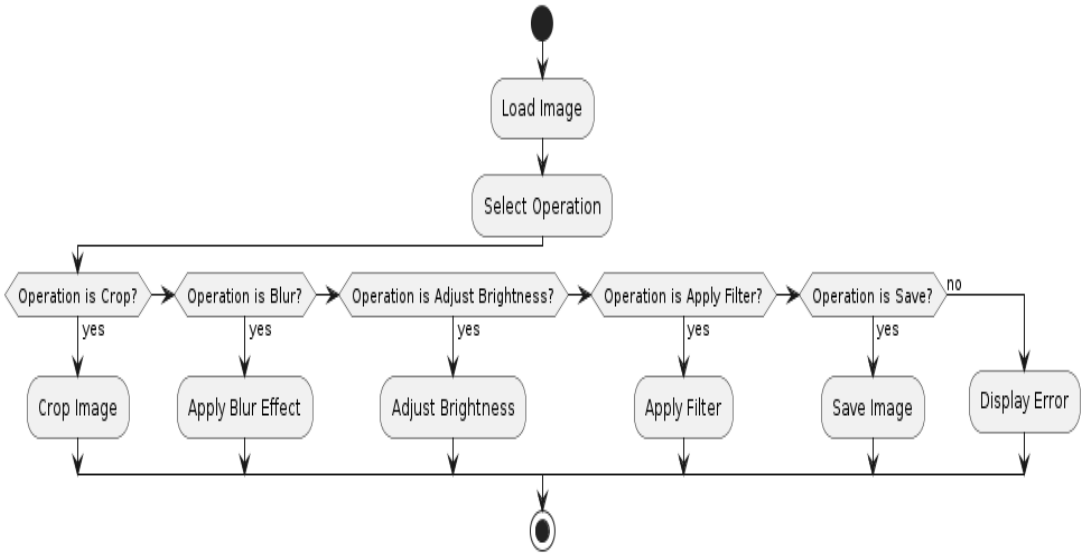

Figure 2: Flow Chart

7.2 E-R Diagram

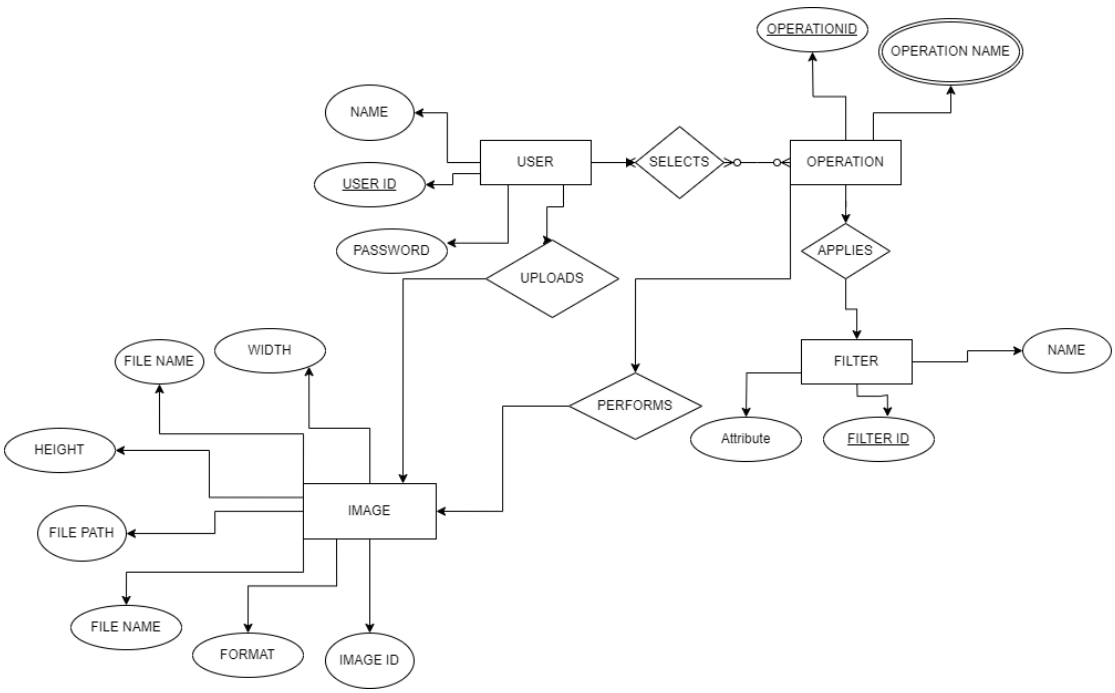

Figure 3: E-R Diagram

6. Project Gantt Chart

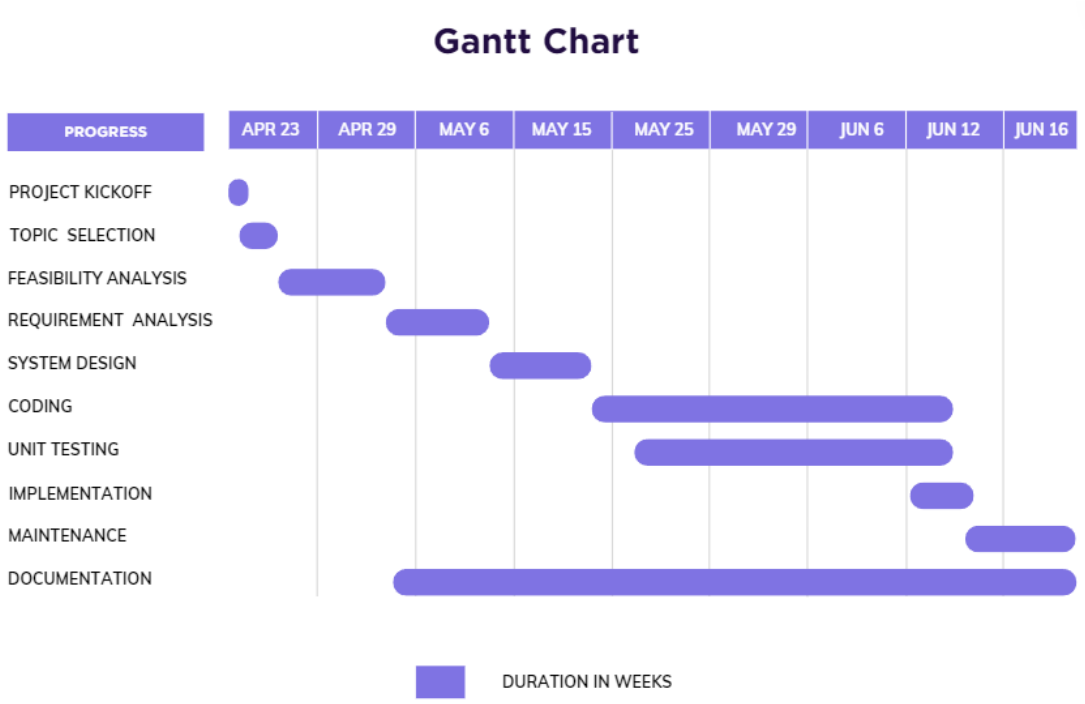

Figure 4: Gantt Chart

7. Deliverables

The expected deliverables of this project includes:

- Fully functional image filter application developed in Vb.net.
- Source code with proper documentation.
- User manuals and developer guides.
- Test reports and documentation.
- Final project documentation summarizing the development processes and achieved results.

8. References

- Microsoft Developer Network. (n.d.). Retrieved from https://docs.microsoft.com/en-us/dotnet/visual-basic/
- Stack Overflow. (n.d.). Retrieved from https://stackoverflow.com/