TELONE CENTRE FOR LEARNING

**C# WEB BROWSER**

**BY**

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Declaration Page

I declare that this is my original work except where sources have been cited and acknowledged. The work has never been submitted, nor will it ever be submitted to another college or university for the award of a diploma.

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## List of Acronyms and Abbreviations

* MVS - Microsoft Visual Studio
* WWW-World Wide Web
* HTTPS-Hyper Text Transfer Protocol Secure

## Definition of Key Terms

**Desktop-** The main Graphical User Interface of an Operating System usually displayin icons

**Website-**A collection of interlinked web pages on the World Wide Web

**Server-**A program that provide services to other devices and programs over a computer network

## Abstract/Executive Summary

Web browsers are like a door that welcomes us to the world of internet .They collect what we are looking for and give it back to us in a beautiful , organised and clear way .A web browser allows users to access web based applications over the internet. Browser wars have been there since the late 1990s after the coming up of WWW technology .Browser compatibility have been a major problem since then. However the browser war have not yet come to an end as giants still want to dominate. It’s very unfortunate that Africa at large have been and still lagging behind in this competition

It is a project of top priority because everything is going online for example Online Exams, Online shopping this means that highly efficient web browsers are needed despite the fact that there are many web browser out there. Chrome ,Firefox ,Opera and Microsoft Edge are the dominating browsers but the problem is that they have certain issues they miss out

**C# WEB BROWSER**

## Introduction/Overview

A web browser is a client side software application which allows users to access World Wide Web or a local website. A user simply request a web page by entering the web link in the URL bar .In return the web browser display the required web content.A web browser is more of a brifge between the user and the web server .Without a web browser accessing the internet is really complicated

## Background to the Project

I am looking forward to develop a new C# Web Browser. Since a large number of people are spending much time on internet either for internet or business there is a need to develop a C# browser with new taste. Most web browsers including Chrome and Opera are designed using C++ .So C# browser is unique in its own way since its using a different Language

My mini C# Web Browser is OOP based .It will make use of Object Oriented Programming features. Classes and object are of great importance in this project. OOP is very important in software development. Some software applications are difficult to manage because they are not OOP based. My C# web browser will be highly efficiently due to the existence of OOP features .It will be very easy to add new features and modules

**Where else in the world does this problem exist and how has it been solved?**

C# based web browsers have a lower market share as compared to those developed in C++.Actually this a global issue of which in the software industry we should maximize the usage of C# in the development of software. In addition some software applications have failed due to the absence of OOP features therefore applying these is the solution

## Statement of the Problem

Software industry is growing rapidly . However the issue of OOP concepts is a serious matter. My C# Web Browser demonstrates the importance of using OOP concepts in programming

## Research Objectives

The main objective is to create a light weight C# Web Browser that is strongly based on OOP features

**Sub-Objectives**

1. Demonstrating how a C# based Web Browser works

2. GUI Application design using Microsoft Visual Studio

3.The importance of OOP concepts in Software Industry

4.How does WWW really works

## Research Questions

On the basis of research directed towards the development of C# based Web Browser .I formulated following the questions

1. What is the impact of using OOP concepts in programming
2. What should be done to overcome problems associated with Procedural Programming paradigm

c. The advantage of developing a Web Browser using C#

## Assumptions/ Hypotheses

I assume that my C# based browser will be highly efficient due to its nature. The browser should be light weight to consume less memory and CPU cycles. OOP features will make it easy to add new modules to the browser at any given time. In addition I assume that by adding advanced security features the browser will be accepted by users. Furthermore C# have got rich GUI libraries and features .If beautiful features are added to the browser most users will definitely like it

## Significance of the project

The C# based web browser is of great importance because it makes it easier for people to interact with the internet. The internet is now dominant and almost everything have become digital .So in this digital era it is wise to introduce a new Web Browser .Besides being a an application a web browser is actually something of greater commercial value

## Delimitation of the project

The first version of my Web Browser will work on Windows OS machines .Later I will develop other versions compatible with Linux and Mac OS. Much of the internet business is now taking place on the mobile platforms therefore I will also develop micro versions of my Web Browser to support Android and Apple IOS mobile phones

## Limitation of the Study

The project requires a lot of resources to test its usability and to verify if its secure. One of the greatest limitation is the browser compatibility with some of the websites. It is very important that the browser should support most websites

## Methodology

I will use the following methodologies and models

* 1. Spiral Model
  2. Rapid Application Development Model(RAD)

**The Spiral Model**

This is one of the most powerful models since it put much emphasis on risk handling. Other models does not consider risk that much.The diagrammatic representation of this model looks like a spiral with many loops. Each loop of the spiral is called a phase of the software development. Each phase of the software development is divided into 4 quadrants

**The functions of 4 Quadrants of Spiral Model**

**1. Objectives determination and identifying alternative solutions**

Requirements are gathered from the users and the objectives are identified, elaborated and analyzed at the start of every phase. Then alternative solutions possible for the phase are proposed in this quadrant. In the Web browser development several languages like Java ,C++ and Python can be used however they miss out other important features. The major requirement is that users need a platform or environment in which they can easily access the internet

**User Requirements**

* 1. Graphical User Interfaces
  2. Functions like load(),exit()
  3. Bookmarks and browser history section

**2.Identify and resolve risks**

During the second quadrant all the possible solutions are evaluated to select the best possible solution. Then the risks associated with that solution is identified and the risks are resolved using the best possible strategy. At this stage I asses all the risks associated with Web Browser which may include security issues

At the end of this quadrant, Prototype is built for the best possible solution.The first working model of the web browser is developed at this stage

**3.Develop next version of the Product**

During the third quadrant, the identified features are developed and verified through testing. At the end of the third quadrant, the next version of the software is available

.**Testing**

This will include user acceptance testing.The C# base Web Browser will be reviewed for

* Correctness
* Functionality
* Usability
* Efficiency

**4.Review and plan for the next Phase**

In the fourth quadrant, the users evaluate the so far developed version of the software. In the

end, planning for the next phase is started.

**The Spiral Model Diagram**



**Rapid Application Development(RAD)**

**This is the second methodology I will use alongside with the Spiral Model**

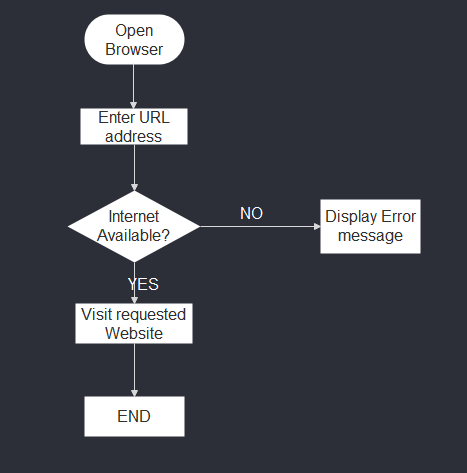
Rapid Application Development (RAD) is a development model that prioritizes rapid prototyping and quick feedback over long drawn out development and testing cycles. With rapid application development, developers can make multiple iterations and updates to a software quickly without starting from scratch each time. This helps ensure that the final outcome is more quality-focused and is in alignment with the end-users’ requirements.



**Cost Estimation**

Roughly $100 is required

**Web Browser Flow Chart**



## References

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