INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT

Approved By AICTE New Delhi, DTE (MS) and Affiliated to Savitribai Phule Pune University (Id-No. PU/PN/Engg/282/2007)

A PROJECT REPORT
ON

UM BROWSER

SUBMITTED

BY

NILESH TALE (23243)

Under the Guidance of

PROF. Rupali Pawar

FOR THE YEAR 2020-2021

INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT

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CERTIFICATE

This is to certify that **NILESH TALE (23243)** has delivered his Project and submitted report on

UM BROWSER

of Year 2020-21 towards the partial fulfillment of T.E. (Computer Engineering) as per
University of Pune.

Date:

Place: Pune

Prof. Rupali Pawar
(Project Guide)

Dr. Priya Pise
H.O.D. (Computer Engg.)

ACKNOWLEDGEMENT

With immense pleasure, I am presenting this Project report as part of the curriculum of T.E. Computer Engineering. I wish to thank all the people who gave me an unending support right from the stage the idea was conceived.

We take this opportunity to convey our sincere thanks to our beloved principal **Dr. Sunil**

Ingole for his continual support and encouragement that made the Project a great success.

We express our profound thanks to our respected Head of the Department, **Dr. Priya Pise whose** advice and valuable guidance helped us in making this Project interesting and successful one.

We are grateful to our internal guide **Prof. Rupali Pawar** for his support and guidance throughout the course of our Project.

We also thanks all those who have directly or indirectly guided and helped us in preparation of this Project.

Last but not the least we thank our beloved parents, friends and well-wishers who helped us to do this Project by their kind help and assistance.

NILESH TALE (23243)

(Name & signature of student with roll number)

ABSTRACT

UM BROWSER is an android application for accessing information on the World Wide Web. When a user requests a web page from a particular website, the UM BROWSER retrieves the necessary content from a web server and then displays the page on the user's device.

This process begins when the user inputs a Uniform Resource Locator (URL), such as *https://www.google.com/*, into the browser. And once a web page has been retrieved, the browser's rendering engine displays it on the user's device. This includes image and video formats supported by the browser.

UM BROWSER is supported on android smartphone devices ranging from android 5.0 to latest.

TABLE OF CONTENTS

INTRODUCTION

What is UM BROWSER?

UM Browser is an android application designed to help people surf the Internet. It is used to locate & display web pages on the internet. It is similar to any other Web Browser like Chrome, Edge, Firefox, Opera, etc. seen in the Global Market.
A UM Browser lets you visit websites and do activities within them like login, view multimedia, link from one site to another, visit one page from another, print, send and receive email, among many other activities
The main component of any web browser is the URL box. When an individual feeds some URL and press enter button, the web browser sends the request to the DNS server through the ISP. The DNS server searches for the IP address of that URL address.
The correct IP address is then sent back to the Browser by the DNS Server. The Browser then connects to the server at that IP address and requests for the Web Page. And all of this is monitored through the Internet Service Provider (ISP). Apart from the URL box, many web browsers come with other features like Password Manager, History, Bookmarks, and Extensions.
One of such Browsers is the UM Browser which also comes with some features.

In this report we will see all about the application in detail.

Approach to UM BROWSER

- Firstly, we need to install the application. At starting we need to Register and then you are directly logged in for the first time.
- After that you are free to surf & interact with internet and search or visit any website as needed.
- After searching website URL is created and stored in Realtime Database. To delete this created history just go delete from History Intent. Bookmarks are also created when pressed Bookmark FAB Button and stored in Realtime Database. To check or delete created Bookmarks, just visit Bookmark Intent.
- To avoid creation of History and Bookmarks for your privacy surf from the Incognito mode.
- To record screen and interact with daily life apps visit their specific Intents.

PROJECT MOTIVATION

OBJECTIVE:

- To bring information resources to the user, allowing them to view the information, and then access other information.
- To fetch the data like web page, image, video or other piece of content from the server and displays it accordingly.
- To run the software application that allows retrieving, presenting and traversing the information from one place to another.

Why is UM BROWSER required?

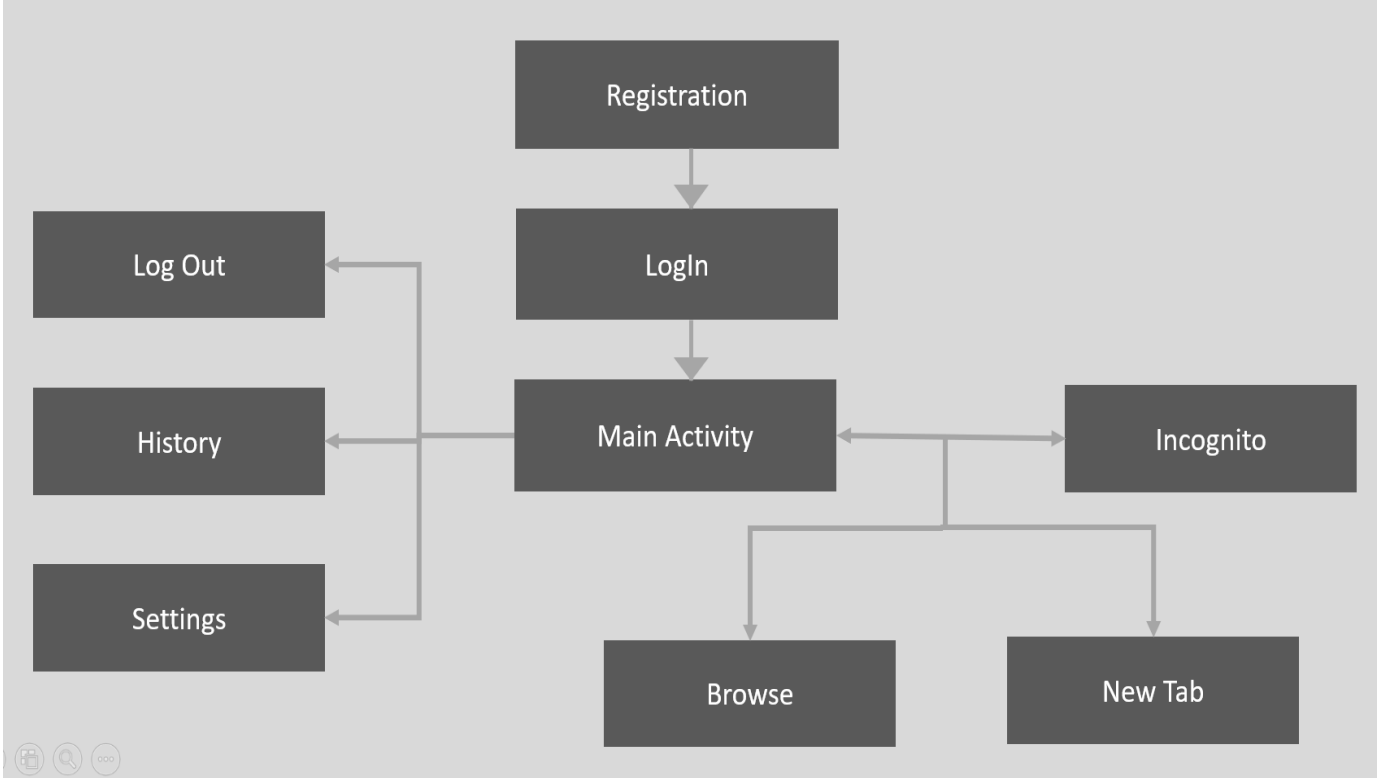
There's no way around it: both consumers and businesses need to digitize to keep up with rapidly evolving platforms. With the rise of e-commerce and social media advertising, digital marketing has become a vital component for the success of any company. The importance of browser lies in its different ways of displaying your website.

DESCRIPTION OF APPLICATION

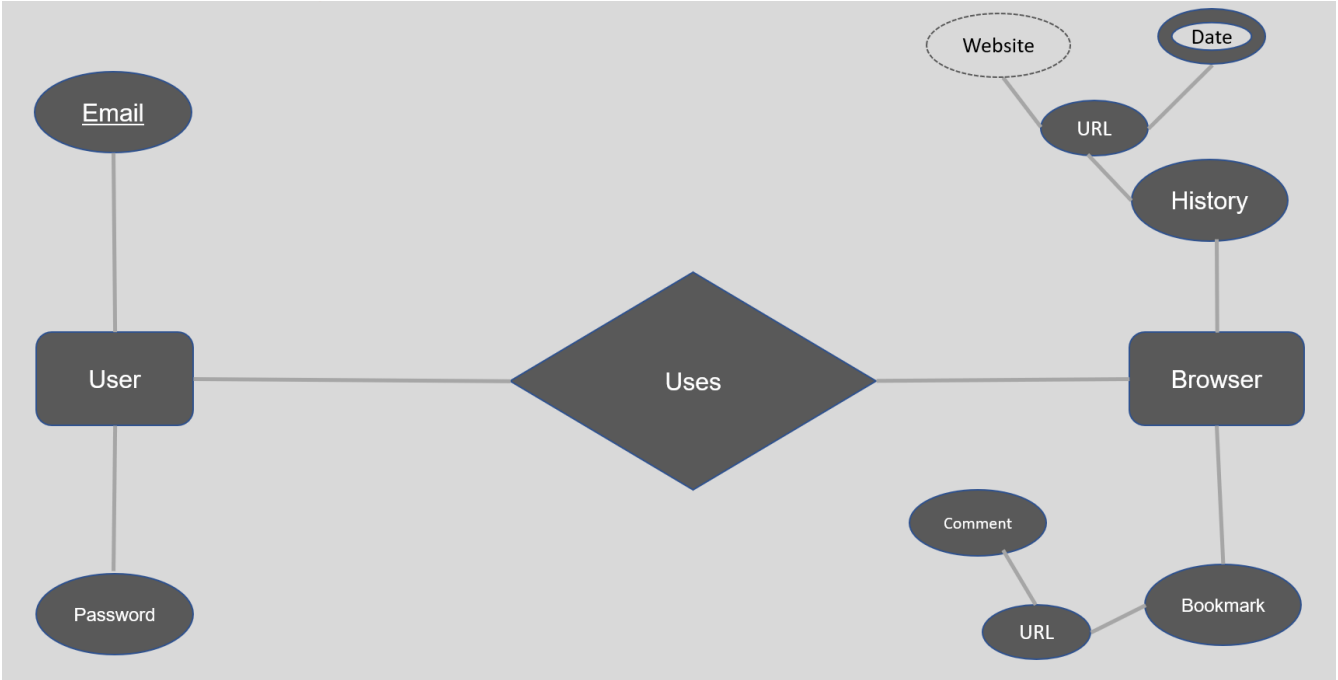
- At first when user will install the application, user is directed to login page as the user is new, he has to sign up first to proceed. When user clicks on register button user is directed to the registration activity where he/she has to enter the details like name, email and a password and register it. As soon as user clicks on register button, user's new account is created and he is redirected to main web page activity.
- Here user is able to search required URLs, surf web and interact with webpages as needed.
- As we surf the webpages, their URLs are stored in Firebase Database. And inside the history Intent, searched URLs are stored that are retrieved from Firebase Database.
- If user has to surf privately, he/she can open Incognito mode with animated FAB Button on dashboard & thus no history will be stored in Database from this mode.
- User can also change theme from settings situated in menu button.
- Screen Recording feature is also enabled in order to help user to record screen as required.
- App integration feature is available to interact with main applications web pages.

SYSTEM ARCHITECTURE

BLOCK DIAGRAM:



ER DIAGRAM:


Website
Date
Email
URL
History
User
Uses
Browser
Comment
Password
URL
Bookmark

SOFTWARE & HARDWARE REQUIREMENTS

SOFTWARE USED:

- Android Studio
- Firebase Database

SYSTEM REQUIREMENTS:

System Requirement	Specification
Device	Android
Software Version	Android 5.0 & Up
Current Version	1.0
Storage	3 MB
Permissions	Internet

CONCEPTS USED

CONCEPTS LIST:

- Hash map
- Embedding
- Handler

HASHMAP:

Hash map is used to map users History and Bookmarks to their email ids. Every time user searches any URL or visits any webpage history is created and stored. And when user Bookmarks any website, it’s URL is stored in HashMap.

HANDLER:

A Handler allows you to send and process message and Runnable objects associated with a thread's Message Queue. Each Handler instance is associated with a single thread and that thread's message queue. When you create a new Handler, it is bound to a looper. It will deliver messages and runnable to that Looper's message queue and execute them on that Looper's thread.

EMBEDDING:

Embedding in our project is done as objects as firebase real time database uses a JSON structure i.e. object and it is stored as documents and collections, so whenever the data comes from firebase Realtime database to android or goes from android to firebase Realtime database the interaction or the data is sent and received in the form of object. The values are taken from the users stored in a variable and then copied to the class with a object and this object is then used to store data on firebase real time database with the help of database reference object. That is to store data and retrieve data we use two different objects one, related to the class and two, a database reference object.

PROJECT OUTPUT

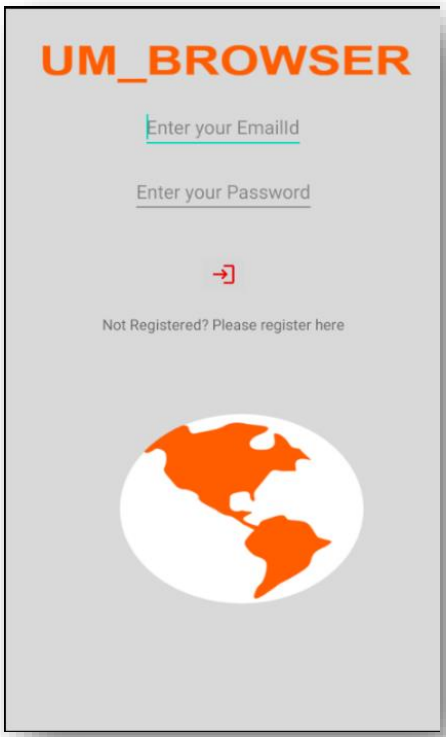
Type of testing used: Instrumented Test

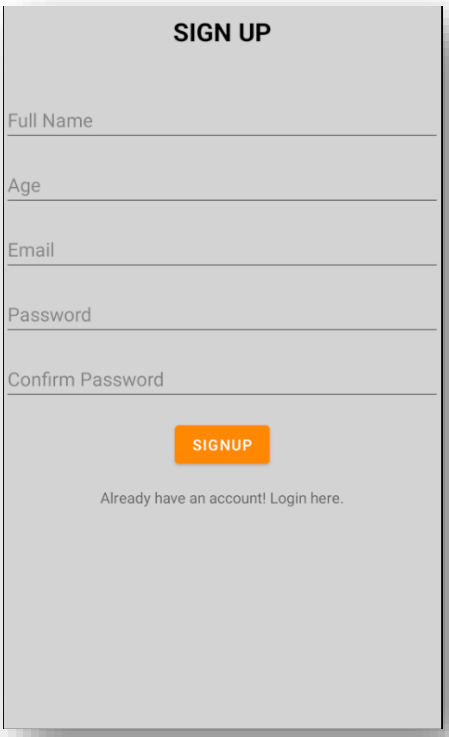
Instrumented test is offered by android studio it is based on Junit. JUnit is a unit testing framework for the Java programming language. JUnit has been important in the development of test-driven development.

Device used for Instrumented Testing: Android Emulator

Android Version: 10

OUTPUTS:

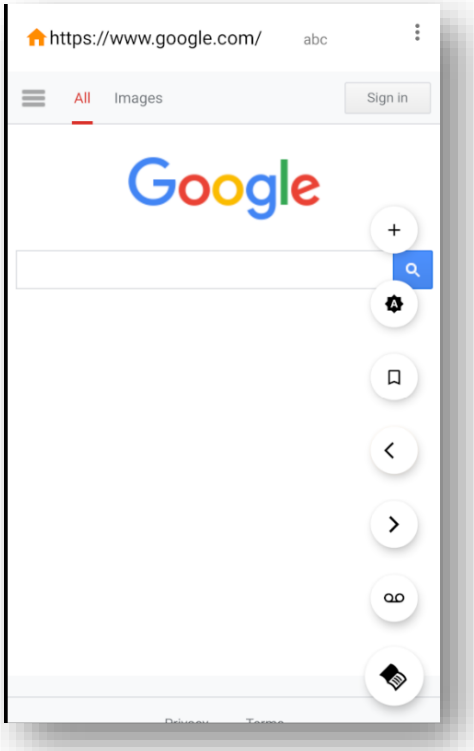


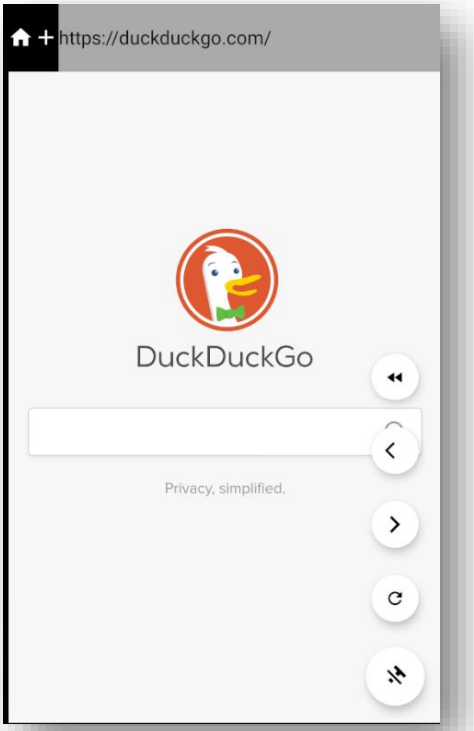


UM BROWSER

LOGIN

REGISTER



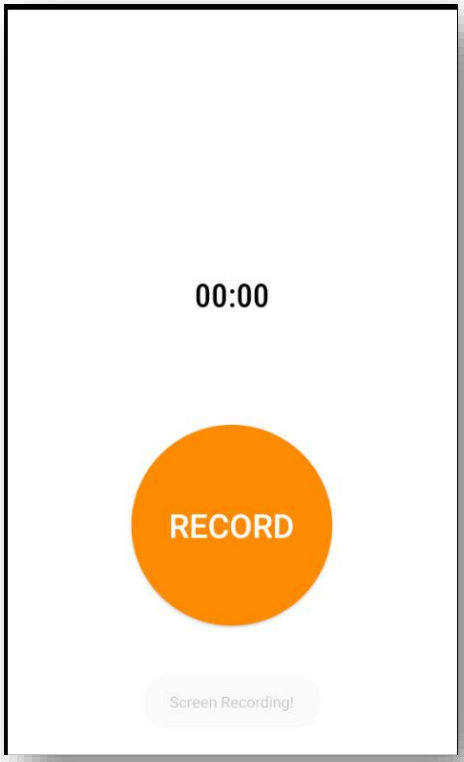


MAIN LAYOUT

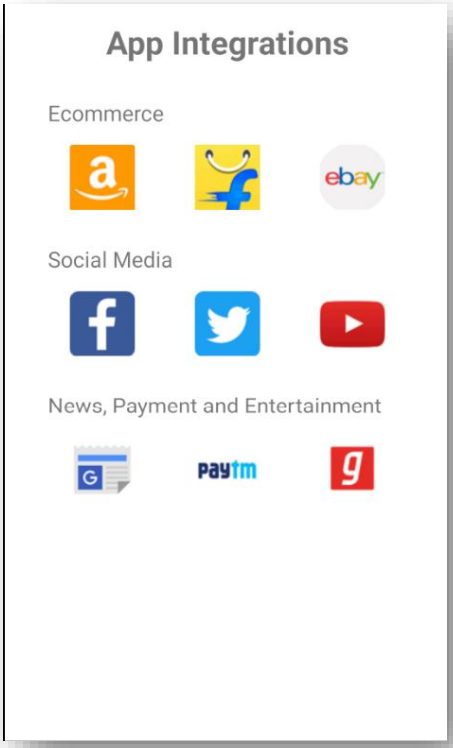
INCOGNITO MODE

HISTORY

BOOKMARKS



SCREEN RECORDER



APP INTEGRATIONS

APPLICATIONS & ADVANTAGES AND DISADVANTAGES

APPLICATIONS:

This application is used for browsing webpages and to connect world virtually in order to exchange information.
For entertainment purpose such as listening online songs or watching movies or videos online.

ADVANTAGES:

- Let you access any type of data from web.
- Open standards - anyone in the world can write, test, and distribute software that runs in the browser. Apps are specially built and require a gatekeeper like Google or Apple to approve them.
- Simple networking - http is simple to use, and https provides incredibly simple to use secure communication wrapper around http. With the addition of web sockets and http2, efficient bi-directional pipelined communications are standard. Browsers keep getting better at networking.
- Runs everywhere - browsing experience can run on nearly every device with a screen and input, and many sites degrade nicely to lower tech. The web is ubiquitous, so distributing an app is as simple as sharing a link.

DISADVANTAGES:

- Internet reliance – Whilst 4G & Wi-Fi internet access is available in many locations, if you happen to lose connection you will not be able to access your web page.
- Depression, loneliness, and social isolation.
- Pornographic and violent content.

CONCLUSION

We all team members have created and presented UM Browser that is used to surf internet that is mostly required in day to day life for every individual. We also have made the application in a way that will help users to interact with internet in a very efficient and helpful way.