ST. TERESA'S COLLEGE (AUTONOMOUS)
AFFILIATED TO MAHATMA GANDHI UNIVERSITY, KOTTAYAM

MOVIE RECOMMENDATION
USING MOOD DETECTION
PROJECT REPORT

In partial fulfilment of the requirements for the award of degree

BACHELOR OF SCIENCE IN
COMPUTER APPLICATIONS [TRIPLE MAIN]

Submitted By

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III B.Sc. Computer Applications [Triple Main]

Register No: SB21CA006

Under the guidance of Professor

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DEPARTMENT OF COMPUTER APPLICATIONS

2021 – 2024

CERTIFICATE

This is to certify that the project report entitled "Movie recommendation using mood detection," is a bona-fide record of the work done by ANLITTA K.P (SB21CA006) during the year 2021 – 2024 and submitted in partial fulfilment of the requirements for the degree of Bachelor of Science in Computer Applications (Triple Main) under Mahatma Gandhi University, Kottayam.
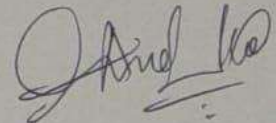
Head of the Department
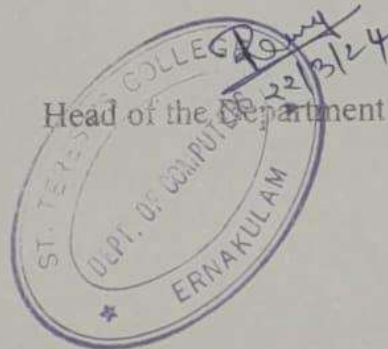
Megha
22/3/2024

Internal Examiner

Date: 21/3/2024

External Examiner

DECLARATION

I, ANLITTA K P (Register no: SB21CA006), B.Sc. Computer Applications [Triple Main] final year student of St. Teresa's College (Autonomous), Ernakulam, hereby declare that the project submitted named "Movie recommendation using mood detection" for the Bachelor's Degree in Computer Applications [Triple Main] is my original work. I further declare that the said work has not previously been submitted to any other university or academic body.

Date: 21|3|2024

Place: ERNAKULAM

ANLITTA K.P

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Finally, I take this opportunity to Thank all them who has directly or indirectly helped me with my project.

ANLITTA K.P

SYNOPSIS

FLICKS PICKS- Movie Recommendation Website Using Mood Detection, is an innovative movie recommendation website that revolutionizes the way users discover movies by integrating real-time emotion detection technology. Upon registration and login, users are welcomed into the website's home page, where they are prompted to select their current mood. Leveraging cutting-edge real-time video analysis, the platform detects users' emotions through their facial expressions, offering a seamless and interactive experience. Based on the detected emotion, personalized movie recommendations are generated, matching the mood with relevant movie genres. Users are presented with a diverse selection of movie options, each tailored to their emotional state. They can explore recommended movies through trailers and synopses, with the option to refine their mood selection for more precise recommendations. Additionally, Flick Picks incorporates social integration features, allowing users to download recommended movies and watch reviews and trailers of their favorite films . The platform continuously improves its recommendation system through user feedback and machine learning algorithms, ensuring a dynamic and evolving movie discovery experience. In conclusion, Flick Picks offers users a unique and personalized journey through the world of cinema, inviting them to explore and enjoy movies based on their emotions.

Contents

1. INTRODUCTION

1.1 About Project

"Flick Picks" is a groundbreaking movie recommendation project designed to cater to movie enthusiasts seeking personalized suggestions based on their current emotions. With a focus on user engagement and satisfaction, the project targets individuals of all backgrounds, offering an intuitive and immersive way to discover films that resonate with their mood. Through real-time emotion detection technology, "Flick Picks" aims to revolutionize the movie recommendation experience, providing a seamless journey through the world of cinema.

1.2 Objectives of the Project and the Organization

The objective of the project is to introduce the concept of Movie recommendation for users of any type to save time and money for enjoying a seamless and interactive movie experience.

The main objective of the organization is to continuously optimize their customers' business through their world-class solutions; services and products. They ensure the success of the company by constantly and consistently satisfying the customers, shareholders, and employees.

2. SYSTEM ANALYSIS

2.1 Introduction

The primary objective of system analysis is to identify any problems, weaknesses, or inefficiencies in the system and to develop strategies for improving its functionality. This may involve gathering and analyzing data, conducting interviews and surveys, creating mathematical models, and developing computer simulations to test different scenarios. It can also be used to design and implement new systems or to integrate existing systems with new technologies or processes.

Overall, system analysis plays a critical role in improving the performance, reliability, and effectiveness of complex systems, and it continues to be an essential tool for organizations and businesses seeking to stay competitive in today's fast-paced and rapidly changing environment.

2.2 Existing System

The existing system is a website that explains the concepts and techniques followed in the Flick Picks. The user can get recommended movies through multiple questions. But in the website, too questions are asked which frustrates the user. Also, the website is not user-friendly. Therefore, the website confuses the user. All the existing websites are similar, there is no major difference. A time- consuming process.

2.3   Proposed System

The proposed system provides enhanced movie recommendation system designed to seamlessly connect users with films that resonate with their current emotional state, enhancing their engagement and satisfaction. Through intuitive navigation, users can effortlessly explore a curated selection of recommended movies tailored to their preferences. With just a click, users can access IMDb for detailed reviews and convenient downloads of recommended films, ensuring accessibility to comprehensive information and immediate viewing options. Our user-friendly interface prioritizes ease of use, empowering users to navigate through the website with ease and select the perfect movie for their mood.

There is only one type of user in the system:

User: - The user must create an account in the website. In the registration page, the user will have to enter their name, email and password. These details will be stored in the

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Flick Picks database. Next is the login page where the user must log in to the account by using the already created username and password, which will be fetched from the database to check for errors. Once logged in, the user will haveaccess to the homepage. The user will have access to all the Flick Picks emotion detection techniques described for the seamless movie recommendations. The User can have movies recommended based of emotions like happy, sad, anger, fear, surprise & neutral. After taking each test the user can also view the corresponding recommendations or not satisfied can iterate again.

2.4 System Specification

A system specification is a formal document that outlines the functional and non- functional requirements for a proposed system. It provides a comprehensive descriptionof the system's behavior, features, and limitations. A system specification is used as aroadmap for the design, development, and implementation of the system. System specification specifies the hardware and software configuration of the new system. It helps to define the operational and performance guidelines of the system. A system specification is used as a roadmap for the design, development, and implementation ofthe system.

2.5 Operating System

An operating system (OS) is a software program that manages computer hardware resources and provides common services for computer programs. It acts as an intermediary between computer hardware and software applications, providing an interface for software developers to interact with the hardware. It simply provides an environment within which other programs can do useful work. The operating system required for proper execution of the system is64-bitMicrosoft® Windows® 8/10/11. Windows 10 includes improved network, application, and Web services. It provides increased reliability and scalability, lowers your cost of computing with powerful, flexible management services, and provides the best foundation for running business application.

2.6 Languages or Software Packages

- **Visual Studio Code:** Visual Studio Code (VS Code) is a versatile and lightweight code editor that has gained widespread popularity among web developers for its rich feature set and ease of use. With its intuitive interface and extensive customization options, VS Code provides developers with a highly productive environment for building websites. Its built-in support for HTML, CSS, and JavaScript, combined with a vast library of extensions, enables seamless integration with popular frontend frameworks like React.js, Vue.js, and Angular. Additionally, its robust debugging capabilities, integrated terminal, and Git version control make it an indispensable tool for collaborative web development projects. Furthermore, VS Code's IntelliSense feature provides intelligent code completion and suggestions, significantly enhancing developers' efficiency and reducing errors. Overall, Visual Studio Code empowers developers to create high-quality websites efficiently, making it an essential tool in the modern web development workflow.

- **Python:** Python is a high-level, interpreted programming language renowned for its simplicity and versatility. It supports multiple programming paradigms and comes with an extensive standard library, facilitating rapid development across various domains. Python's readable syntax and dynamic typing streamline the coding process, making it a favorite among developers for web development, data analysis, machine learning, and automation tasks. Its popularity continues to soar due to its ease of use and broad applicability, with millions of developers worldwide leveraging its capabilities to create impactful solutions.

- **MySQL**: MySQL is a relational database management system which is more than 11 million institutions. The program runs as a server providing multi-user access to several databases. MySQL is owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now a subsidiary of Sun Microsystems, which holds the copyright to most of the code base.

  The project's source code is available under terms of the GNU General Public License, as well as under a variety of proprietary agreements. The SQL acronym stands for Structured Query Language.

2.7 Hardware and Software Specifications

Hardware Requirements:

- Main Processor: Intel core i3 or above

- RAM 8 GB or Above

- Keyboard Standard 108 keys

- Mouse 3D Optical mouse

- Monitor 15" Standard

- Hard disk: 10 GB of available disk space minimum or above

Software Requirements:

- Operating System   64-bit Microsoft® Windows® 8/10/11

- Programming Language   Java, Android

- RDBMS   MYSQL

- Development platform: Web-based

- Front end: Html, Css, Javascript

- Back end: Python

3. SYSTEM DESIGN

3.1 Introduction

System design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. It is a critical step in the software development lifecycle that bridges the gap between the requirements analysis and implementation phases.

3.2 Data Flow Diagram

A data flow diagram (DFD) is a graphical representation of the flow of data through aninformation system. A DFD is often used as a primary step to create an overview of thesystem, which can later be elaborated. A DFD shows what will be the input of the system as well as the output. It clearly represents where the data will come from and goto, and where the data will be stored.
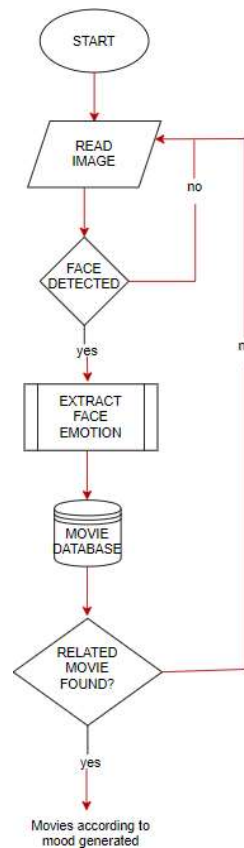
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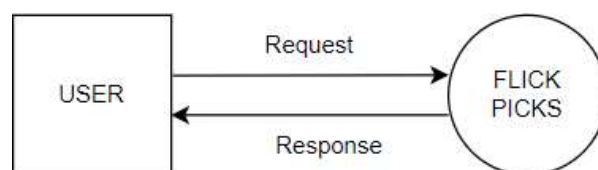
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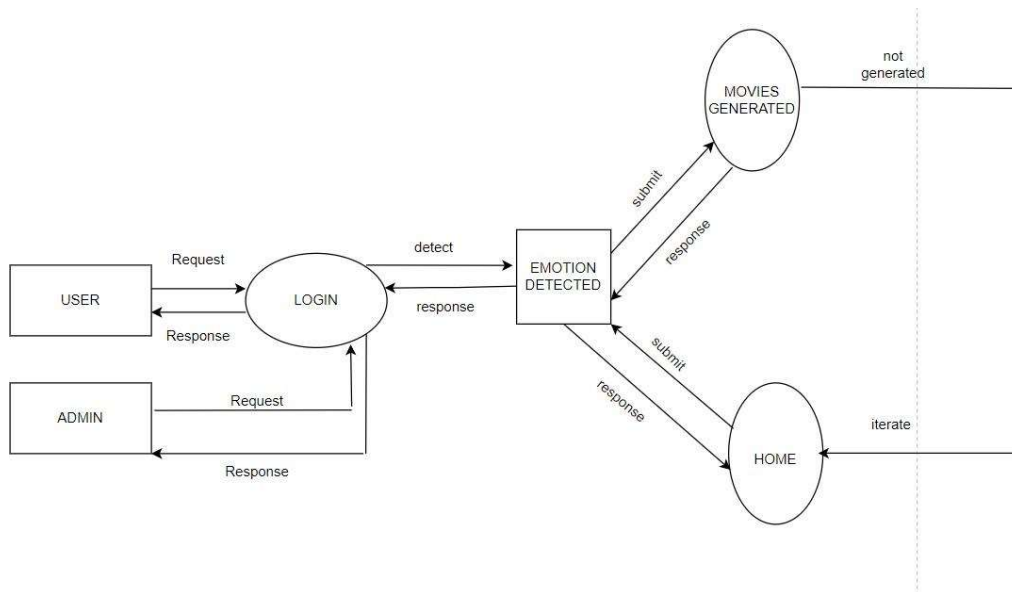
ER DIAGRAM

3.4 Data Dictionary

A data dictionary is a collection of metadata that provides information about the data used in a database or information system. It serves as a reference guide for data elements and their definitions, as well as their relationships with other data elements in the system. A data dictionary is useful for ensuring data accuracy, consistency, and completeness. It can also help facilitate communication and collaboration amongstakeholders who are involved in designing, developing, and maintaining a database orinformation system.

3.5 Data Design

Database design is the process of creating a well-organized and structured database thatefficiently stores and retrieves data. A well-designed database ensures data accuracy, consistency, and completeness and provides an intuitive and user-friendly interface forinteracting with the data. Data design is the first design activity, which results in less complex, modular, and efficient program structure. The information domain model developed during analysis phase is transformed into data structures needed for implementing the software. The data objects, attributes, and relationships depicted in entity relationship diagrams and the information stored in data dictionary provide a basefor data design activity. During the data design process, datatypes are specified along with the integrity rules required for the data. For specifying and designing efficient datastructures, some principles should be followed.

Login

Column	Type	Null	Default
l_id	int (11)	No	None
reg_id	varchar (100)	No	None
email	varchar (100)	No	None
password	varchar (100)	No	None
type	varchar (100)	No	None

user registration

Column	Type	Null	Default
c_id	Int (20)	No	None
name	Varchar (100)	Yes	Null
email	Varchar (100)	Yes	Null
address	Varchar(100)	Yes	Null
password	Varchar (100)	Yes	Null

result

Column	Type	Null	Default
rid	Int (100)	No	None
uid	Varchar (100)	No	None
choice	Varchar (100)	No	None
result	Varchar (100)	No	None
length	Varchar (100)	No	None

4. SYSTEM DEVELOPMENT

4.1 Introduction

Software Development is the process of analyzing, designing, testing, implementation,and maintenance. It is called Software Development Life Cycle (SDLC). Different SDLC include waterfall, prototyping, iterative, incremental, spiral development, rapidapplication development and agile methodology.

4.2 Process Description

Different processes of each module are given below:

o User Registration

The user must enter their name, email id/username, and password in the registration fragment.

4.3 User Login

The user must enter the existing username and password to log into their account in the login fragment.

o Test Activity

When a user expresses any of the six emotions (happy, anger, sad, fear, surprise, or neutral), they will be redirected to an IMDb page showcasing movies corresponding to that emotion. There, they can explore reviews, watch trailers, and even download the movie.

o Analysis Activity

As real-time emotion analysis is conducted through the webcam feed, a rectangle is drawn around the user's face to accurately detect their emotion, facilitating tailored redirection to IMDb pages featuring movies aligned with their emotional state.

4.4 Code Design

User Registration Code

```python
class User:
    def __init__(self, name, username, password):
        self.name = name
        self.username = username
        self.password = password


class UserRegistration:
    def __init__(self):
        self.users = {}


    def register_user(self, name, username, password):
        if username in self.users:
            print("\033[94mUsername already exists. Please choose a different username.\033[0m")
        else:
            self.users[username] = User(name, username, password)
            print("\033[92mUser registered successfully.\033[0m")


def print_welcome_message():
    print("\033[94mWelcome to User Registration\033[0m")
    print("\033[94m---------------------------\033[0m")


def main():
    registration_system = UserRegistration()

    print_welcome_message()

    while True:
        print("\033[94mPlease enter your details below:\033[0m")
```

```python
    name = input("\033[96mName: \033[0m")
    username = input("\033[96mUsername: \033[0m")
    password = input("\033[96mPassword: \033[0m")

    # Register the user
    registration_system.register_user(name, username, password)

    # Ask if the user wants to register another user
    choice = input("\033[94mDo you want to register another user? (yes/no): \033[0m")

    # Check the user's choice
    if choice.lower() != 'yes':
        print("\033[94mThank you for using User Registration. Exiting...\033[0m")
        break

if __name__ == "__main__":
    main()
```

5. SYSTEM TESTING AND IMPLEMENTATION

5.1 Introduction

Software testing is a crucial process in the software development life cycle that involvesevaluating the quality and functionality of the website. The main goal of software testing is to identify defects or errors in the website before it is released to the end-users. The software testing process typically involves several steps, including test planning, test design, test execution, and test reporting.

5.2 System Implementation

Implementation is the action that must follow any preliminary thinking for something to happen. Software/hardware implementations should always be designed with the enduser in mind and the implementation process usually benefits from user involvement and support from managers and other top executives in the company. If users participatein the design and implementation of the system, ideally it will serve their business objectives more accurately and reflect their priorities and the ways in which they preferto work.

5.3 Debugging

Debugging is the process of identifying and resolving issues or errors in the website. It is a critical step in the software development life cycle and is aimed at improving the quality and functionality of the website. During the development process, errors or bugs can occur in the code that can cause the website to behave in unexpected ways or not work at all. Debugging involves identifying and diagnosing these errors, tracing their root cause, and then making the necessary changes to fix them.

Different types of debugging methods used in this system are:

- **Unit Testing:** The application was divided into smaller components and testedindividually. Each code was executed separately to ensure accuracy.

- **Integration Testing:** Each small component was integrated or combined into a module to ensure that each module works properly when put together. This was done to check connectivity between modules.

- **System Testing:** The system was tested by combining every module. This was

to ensure that each process have a particular order. This was to ensure that the system doesnot crash while using.

5.4 System Security

Password encryption is used to protect each user's details.

5.5 Scope for future enhancement

Continuous improvement is inherent in the evolution of algorithms, promising even more precise results. Looking ahead, such advancements hold significant potential, extending beyond movie recommendations to diverse applications like e-commerce. By deciphering user reactions to products, this technology can refine recommendations, enhancing personalized shopping experiences. Furthermore, its utilization in analyzing movie reviews could revolutionize content discovery, providing tailored suggestions aligned with individual preferences. also include that chat bots can be implemented in the future.

5.6 Conclusion

In conclusion, the website developed named "FLICK PICKS" doesn't particularly have a target audience as any age group could use this. Mood detection significantly enhances personalized movie recommendations, offering a tailored viewing experience that addresses the challenge of information overload while maximizing user satisfaction. By leveraging this technology, users can save valuable time and resources by focusing solely on movies aligned with their preferences, leading to a more enjoyable entertainment journey. Moreover, with a future focus on continuous iteration and exploration for enhanced accuracy, mood detection holds immense promise for further advancements in the movie industry, revolutionizing how audiences discover and engage with content.
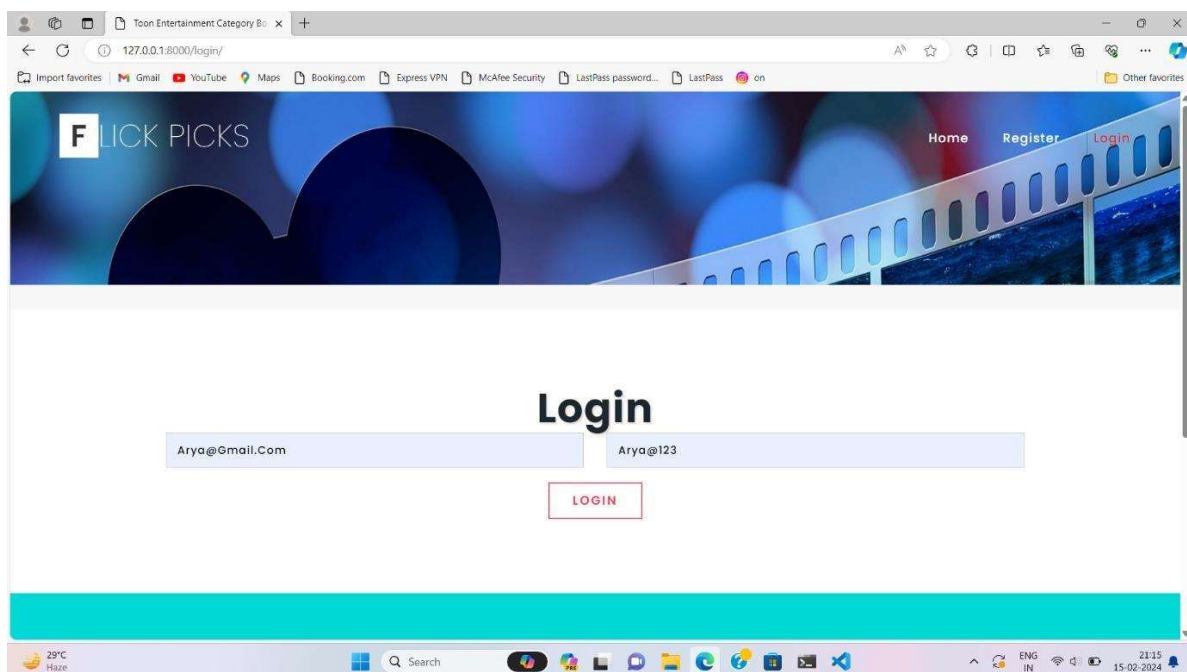
6. APPENDIX

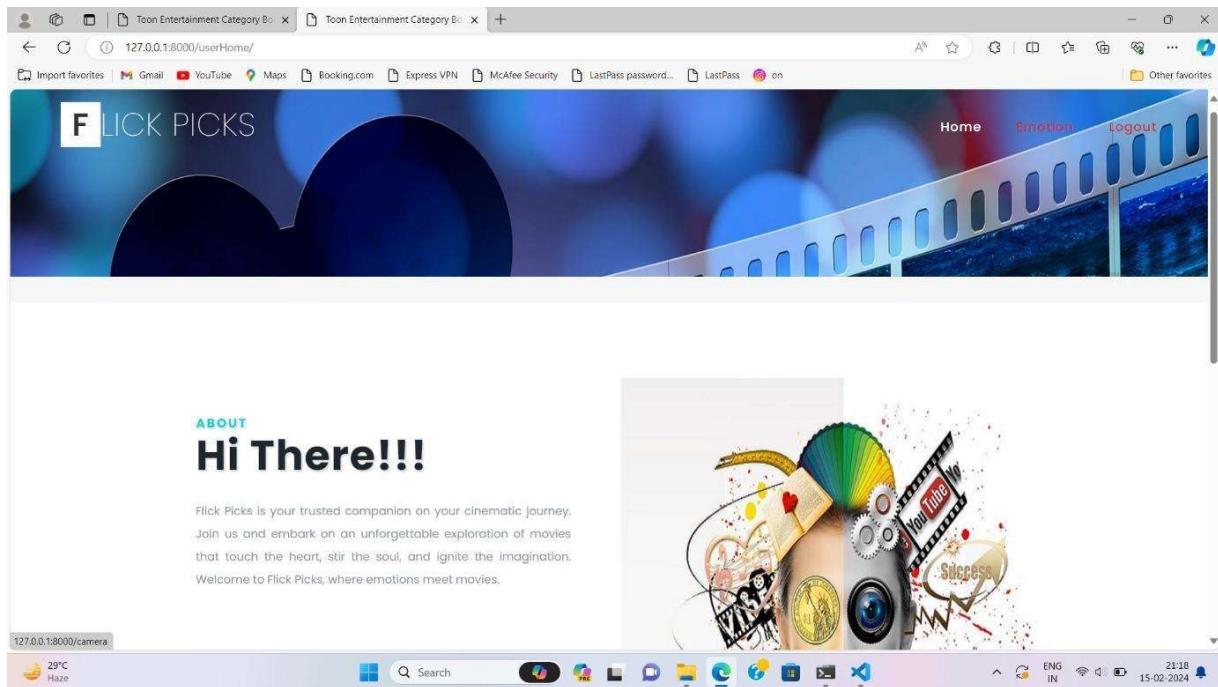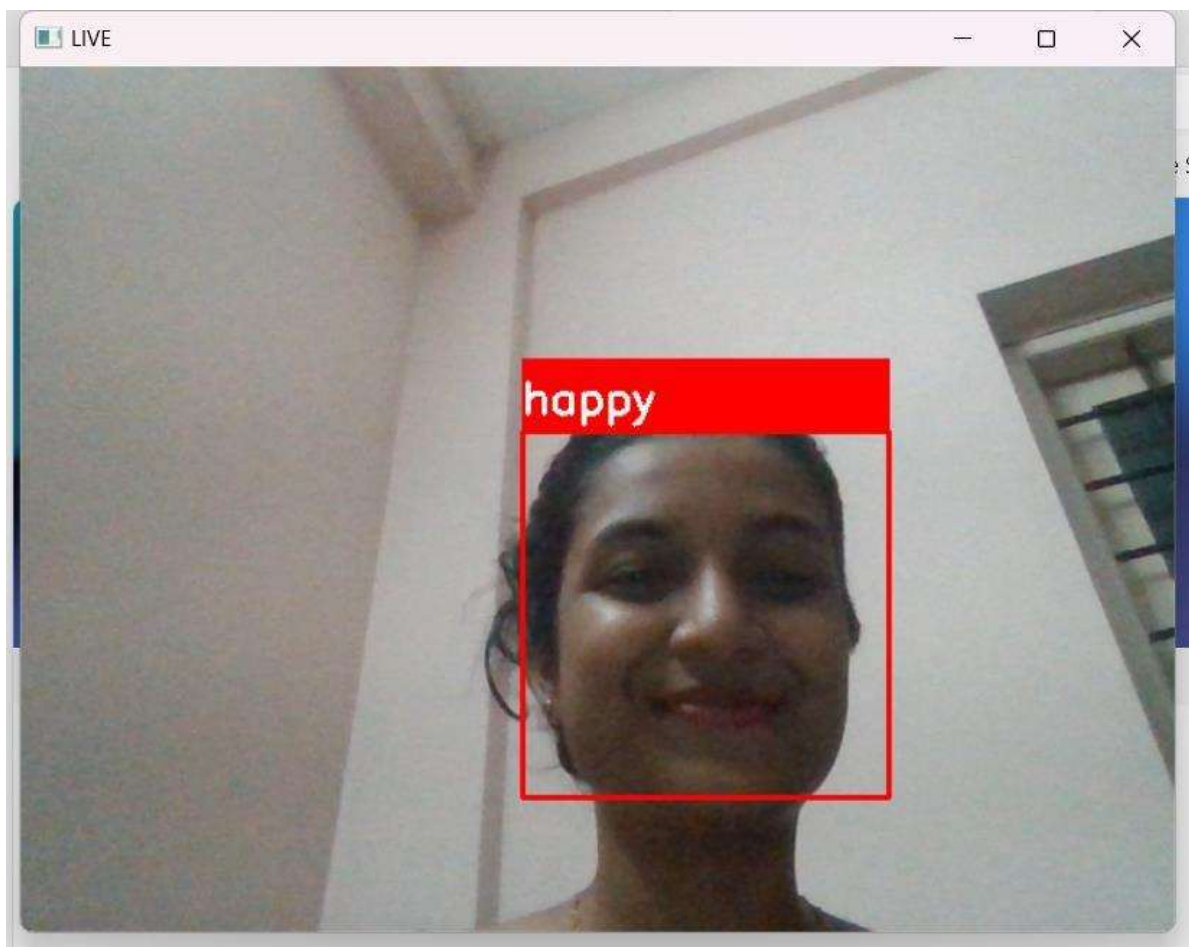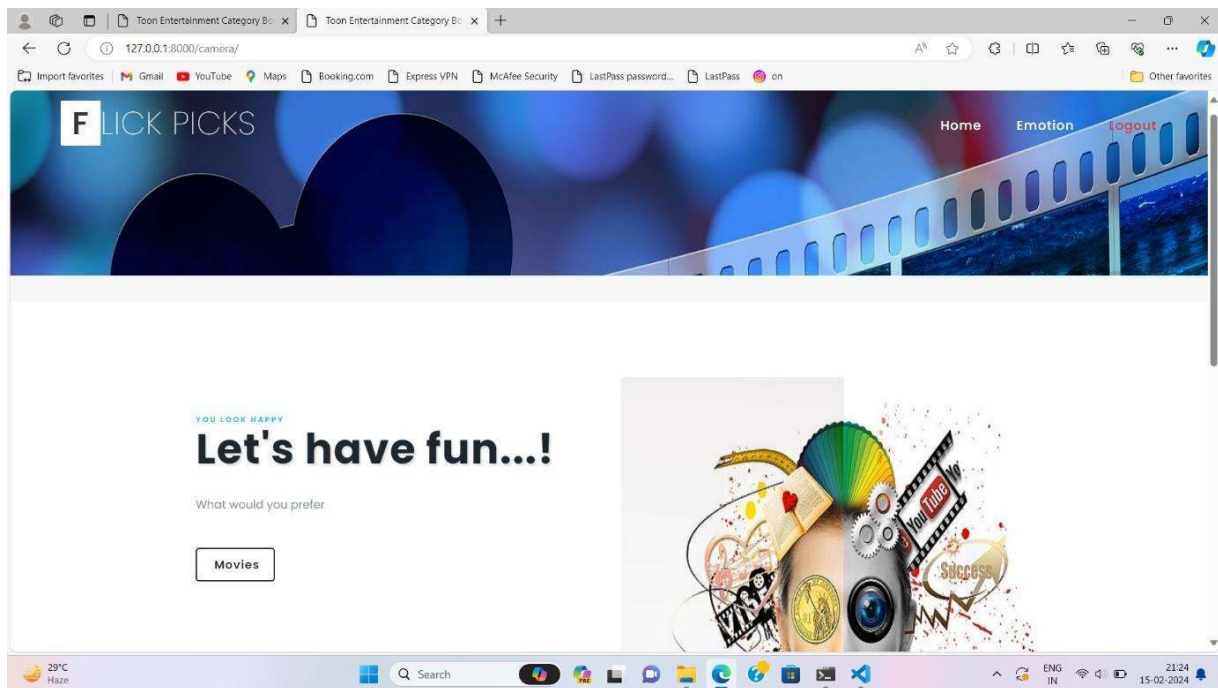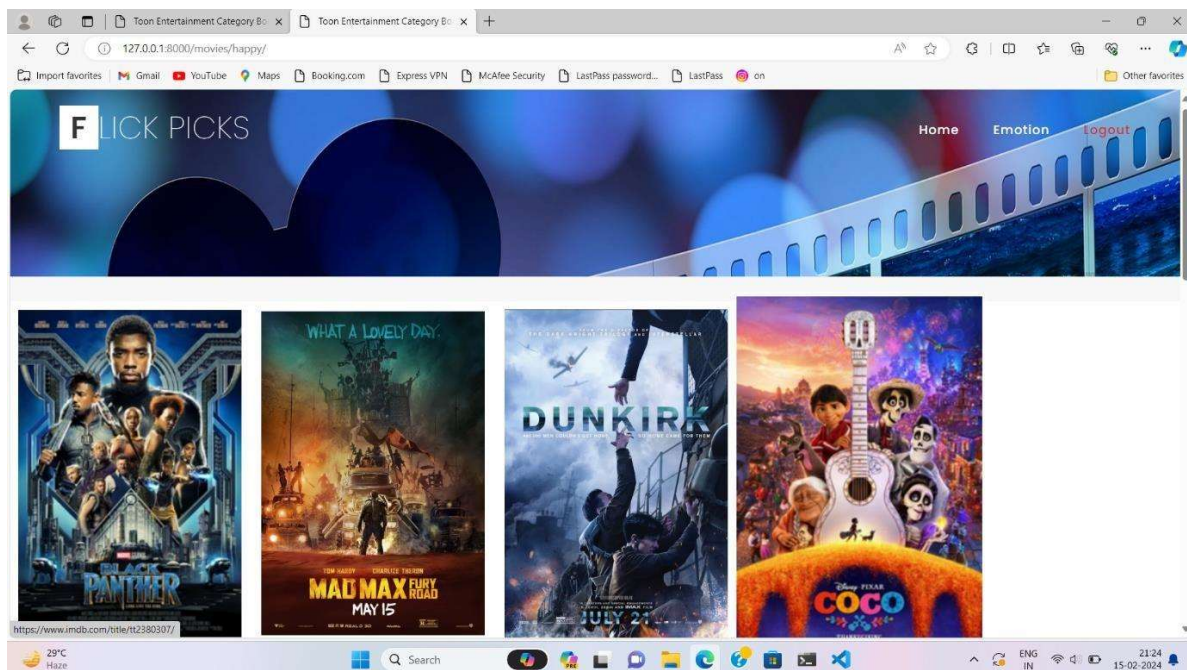# USER

Interface

HOMEPAGE:
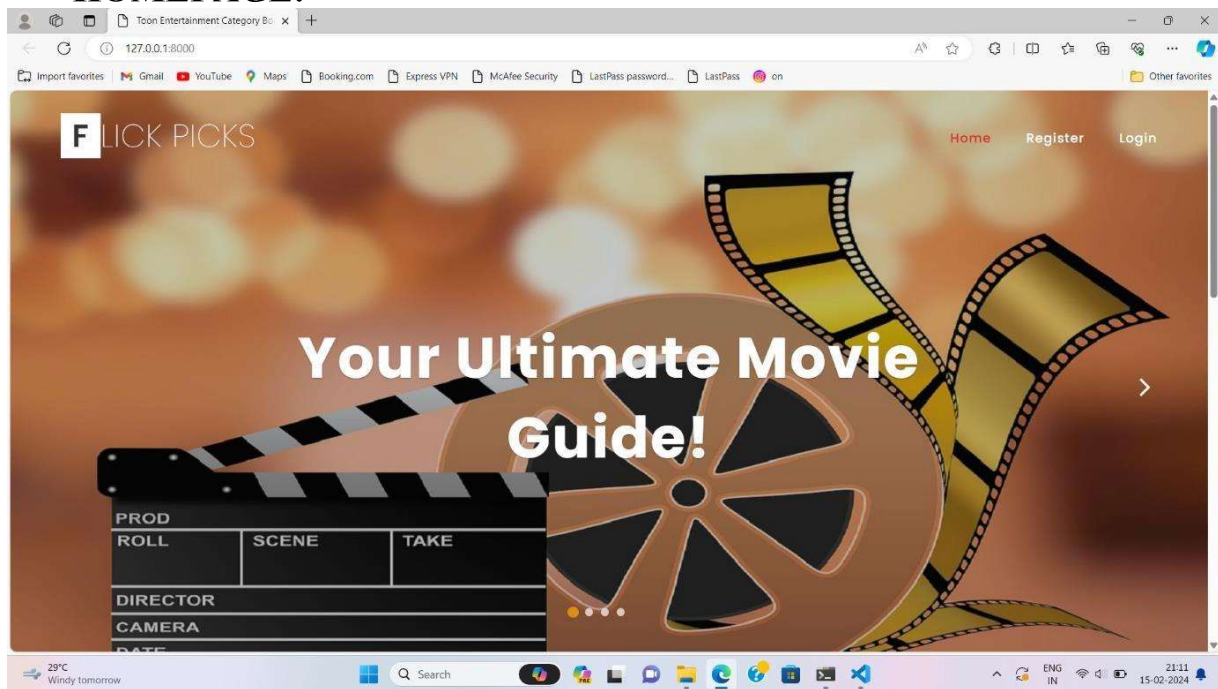
USER LOGIN PAGE:

EMOTION DETETION PAGE:

REAL-TIME EMOTION DETECTION:

EMOTION DETECTED AS HAPPY:

MOVIES RELATED TO EMOTION DETECTED(IMDb PAGE):

7. BIBLIOGRAPHY

7.1 References

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- cinemate.com

- imdb.com