VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Internship Report

on

"Easy Attendance App"

A report submitted in partial fulfilment of the requirements for the award a degree of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by

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ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
MOODBIDRI-574225, KARNATAKA

2023 – 2024

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
MOODBIDRI-574225, KARNATAKA

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

CERTIFICATE

This is to certify that the Internship report on "Easy Attendance App" submitted by GAGANDEEP (4AL20CS040) is work done by him and submitted during the academic year 2023–24, in partial fulfilment of the requirements for the award of the degree of BACHELOR OF ENGINEERING in COMPUTER SCIENCE AND ENGINEERING

BP

Internship Mentor
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Internship Coordinator
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Department of CSE

Examiners

Name   Signature

1)

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Acknowledgement

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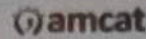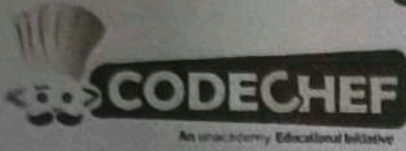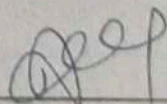
PROUDLY PRESENTED TO:

GAGANDEEP M DONKANNAVAR

For the successful completion of **45 days of Internship** Program on the topic "Java/Python Full Stack Development, Data Structures & Algorithms, Artificial Intelligence & Machine Learning, Aptitude and Soft Skill Training" conducted by Training & Assessment Partners and IIIT Allahabad during March/April and August 2023.

Head - Training and
Placements

Head of the
Department

Principal

Alva's Institute of Engineering & Technology, Moodbidri
(Accedited by NAAC with A+ and NBA New Delhi(CSE & ECE))
https://aiet.org.in

ABSTRACT

QSpiders is a best-in-class learning solutions organization headquartered in India's IT capital, Bangalore. It offers a wide range of courses in the area of software testing and are official partners of the ISTQB. A "finishing school" in many ways, the institute provides young job aspirants the perfect launch-pad to build a rewarding career in the growing IT sector. From its humble beginnings, QSpiders has exponentially grown to be the world's largest software testing training organization spread across countries. At QSpiders, It ensure training is imparted by specialists with proven subject matter expertise and who have spent over a decade in their area of specialization. Its faculty are highly competent, skilled and dedicated to giving their best towards the professional development of students. Besides training, It also provide placement assistance to our students and most of the big corporates in the corporate world hire our trained talent. It is indeed our pleasure to have placed over thousands of job-seekers in various IT firms across India over the years with an aim to place thousands more! Building competency into over 5000 students a month, QSpiders is where talent meets opportunity and we believe your search for the dream job or the dream professional ends here.

DAILY LOGS

DAY	DATE	TOPICS COVERED
Day 1-Day10	15/11/2022 – 25/11/2022	Core Python
Day 11-Day 16	01/09/2023 – 05/09/2023	Memory allocations
Day 17-Day 20	06/09/2023 – 09/09/2023	DSA
Day 21-Day 25	10/09/2023 – 15/09/2023	Core Python
Day 26- Day 32	08/10/2023 – 14/10/2023	Class and Object
Day 33-Day 45	15/10/2023 – 28/10/2023	Python Library

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INTERNSHIP OBJECTIVES

The main objective of this internship is to lean core python and also how memory allocation is allotted to the variable. This internship is was to learn the DSA of python and use the provided open library files effectively.

CHAPTER 1

INTRODUCTION

QSpiders is the world's ace software training organization with an aim to bridge the gap between the demands of the industry and the curriculum of educational institutions. With centers across the Globe, the institute is a platform where young minds are given the opportunity to build successful careers. The company vision is to build an employee fit for agile workspace and provides more software related course which will help us to enlightening our carrier. The company is mainly focusing on Software Development, Software Testing, Core Java and Selenium, API Testing, Java Full Stack Development etc. The company will provide the sufficient training which will be helpful to crack the interview offered by other companies. It also provides placement opportunities for both graduates as well as students in different MNC's. QSpiders, JSpiders and PySpiders hold the record of supplying the highest number of industry-ready technical resources. They can supply over 3500 technical resources at any time to meet the industry's demand.

Fig 1.1 Logo of QSpiders

CONTACT DETAILS:

Websites: https://www.qspiders.com/

Headquarters: Bangalore

Year Founded: 2003

Company Type:

QSpiders is a private company based in Bangalore, India that provides training and placement services in software testing and other related fields. The company has several branches across India and offers courses in manual testing, automation testing, mobile testing, and more.

QSpiders has gained a reputation for providing quality training and has placed many of its students in top IT companies in India. The company has a team of experienced trainers who provide hands-on training to the students and help them build their skills in software testing.

While QSpiders has received positive reviews from many of its students and clients, it's important to note that individual experiences may vary. It's always a good idea to do your own research and read reviews before choosing a training provider.

Address:

01, Hayavadana Rao Rd, Basappa Layout,

Gavipuram Extention, Kempegowda Nagar,

Bengaluru, Karnataka 560019

Email - enquiry@qspiders.com

Phone – 8951965854

CHAPTER 2

PROJECT DETAILS

2.1 PROJECT AREA/DOMAIN:

The project area/domain for an attendance app made in Android encompasses the realm of education technology (EdTech) and workplace management. This app aims to streamline the process of taking attendance, whether it's for schools, universities, or corporate environments.

2.2 PROBLEM STATEMENT:

The current manual attendance tracking system is time-consuming, prone to errors, and lacks efficiency. There is a need for an attendance app that automates the process, reduces administrative burden, improves accuracy, provides real-time data, facilitates communication, enables attendance analysis, and ensures compliance with regulations.

EXPLANATION OF WORKING OF PROPOSED IDEA:

The proposed attendance app offers several solutions and advantages over the existing manual attendance tracking system:

• **Automation and Efficiency:** The attendance app automates the attendance recording process, eliminating the need for manual entry. This saves time for both teachers and administrators, allowing them to focus more on their core responsibilities.

• **Improved Accuracy:** By removing manual data entry, the app reduces the chances of errors such as duplicate entries or incorrect data input. This ensures accurate attendance records, providing reliable data for various purposes such as payroll, compliance, and performance evaluation.

• **Real-Time Data Access:** The attendance app provides real-time access to attendance data for teachers, administrators, and parents/guardians. This enables timely interventions for students with attendance issues, allowing for prompt action to improve attendance and academic progress.

- **Display Results:** Once the algorithm converges or reaches a predefined stopping criterion, the program will display the optimized route found by the selected algorithm. It will also show the total distance traveled along this route.

- **User Interaction:** Throughout the process, the program will provide options for user interaction, such as pausing/resuming the algorithm execution, changing parameters of certain algorithms (if applicable), or selecting different visualization settings.

CHAPTER 3

METHODOLOGY

3.1 JAVA

Java, renowned for its simplicity and versatility, has garnered immense popularity among developers worldwide. With its clean syntax and extensive standard library, Java empowers developers to create robust and efficient solutions for a wide array of domains. One of Java's greatest strengths lies in its open-source ecosystem, which boasts a vast collection of libraries catering to diverse needs. These libraries span various domains including data science, web development, machine learning, and more.

Java's open-source nature encourages community participation, allowing developers to contribute to existing libraries or create new ones to address emerging needs. This vibrant community ensures that Java remains at the forefront of technological advancements, continuously evolving to meet the demands of modern software development. Its extensive standard library, Java's package manager, pip, makes it effortless to install and manage third- party libraries.

3.2 ANDROID STUDIO

Android Studio is a Java based tool for the creation, manipulation, and study of the structure, dynamics, and functions mobile application's.

Android Studio includes a comprehensive collection of algorithms for analyzing graphs, including centrality measures, shortest paths, clustering coefficients, community detection, and much more. These algorithms are implemented efficiently in Java, making them suitable for both small and large-scale graph analysis tasks.

3.3 Realm Database

Given Realm is a powerful database solution for developing Android applications that offers simplicity, performance, and flexibility. Unlike traditional SQL-based databases, Realm is an object-oriented database, which means it directly maps to the objects in your code, making data manipulation more intuitive and efficient. This object-oriented approach simplifies development by eliminating the need for complex ORM (Object-Relational Mapping) frameworks, reducing boilerplate code, and increasing developer productivity.

One of the key advantages of Realm is its speed. Realm boasts significantly faster performance compared to SQLite, the default database engine in Android. It achieves this by utilizing a unique storage engine optimized for mobile devices, which allows for quicker read and write operations. This speed is crucial for mobile applications, especially those requiring real-time data updates or handling large datasets. Additionally, Realm supports asynchronous transactions, enabling seamless background data updates without impacting the app's responsiveness. Overall, Realm offers developers a reliable and efficient database solution for building high-performance Android applications.

CHAPTER 4

IMPLEMENTATION

4.1 SOURCE CODE:

```java
package com.ajstudios.easyattendance;

import androidx.annotation.RequiresApi;

import androidx.appcompat.app.AppCompatActivity;

import androidx.recyclerview.widget.LinearLayoutManager;

import androidx.recyclerview.widget.RecyclerView;

public class MainActivity extends AppCompatActivity {

 BottomAppBar bottomAppBar;

 FloatingActionButton fab_main;

 RecyclerView recyclerView;

 TextView sample;

ClassListAdapter mAdapter;

Realm realm;

 Attendance App
```

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```java
@RequiresApi(api = Build.VERSION_CODES.LOLLIPOP)

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

Realm.init(this);

getWindow().setEnterTransition(null);

bottomAppBar = findViewById(R.id.bottomAppBar);

fab_main = findViewById(R.id.fab_main);

fab_main.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {
```

```python
def nearest_neighbor_tsp(G, start_node=None):
    if start_node is None:
        start_node = random.choice(list(G.nodes))
    pos = nx.spring_layout(G)
    plt.ion()
    plt.show()
    unvisited = set(G.nodes)
    unvisited.remove(start_node)
    tour = [start_node]
    current_node = start_node
    plot_graph_step(G, tour, current_node, pos)
    while unvisited:
        next_node = min(unvisited, key=lambda n: G[current_node][n]['weight'])
        unvisited.remove(next_node)
        tour.append(next_node)
        current_node = next_node
        plot_graph_step(G, tour, current_node, pos)
    tour.append(start_node)
    plot_graph_step(G, tour, current_node, pos)
    print(tour)
    tour_cost = calculate_tour_cost(G, tour)
    print(f"Construction heuristic tour cost: {tour_cost}")
    plt.ioff()
    plt.show()


if __name__ == "__main__":
    G = generate_complete_graph(5)
    approx_tour = traveling_salesman_problem(G, cycle=True)
    approx_tour_cost = calculate_tour_cost(G, approx_tour)
    print(f"Approximate tour cost: {approx_tour_cost}")
    nearest_neighbor_tsp(G, start_node=0)
```
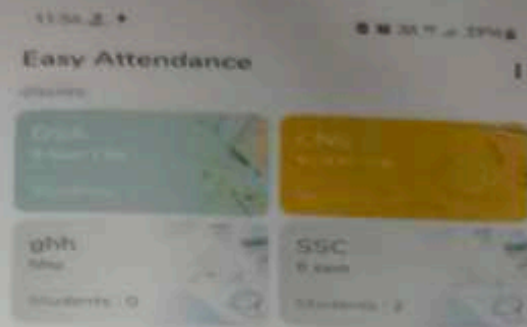
4.2 SNAPSHOTS:

Fig 4.1 Main Page

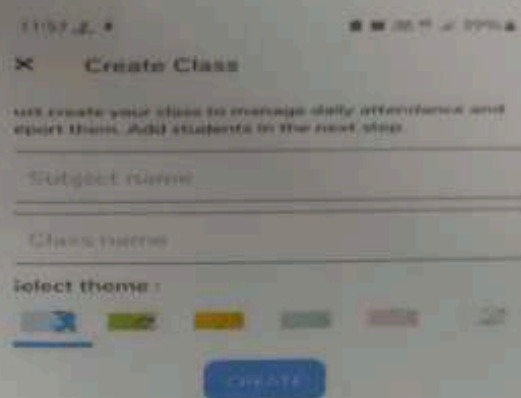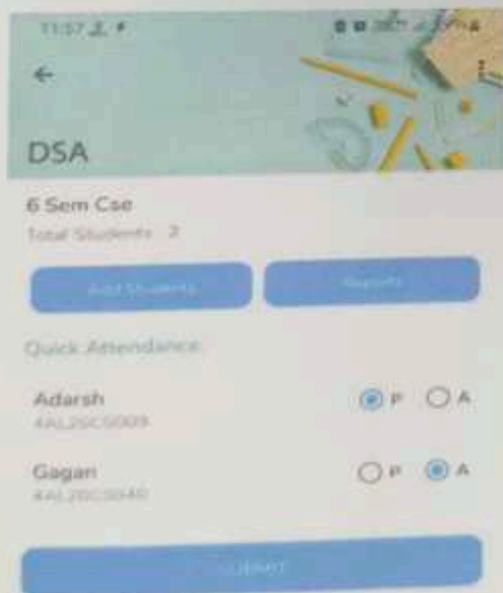

Fig 4.2 Create Class Page

Fig 4.3 View Class Page
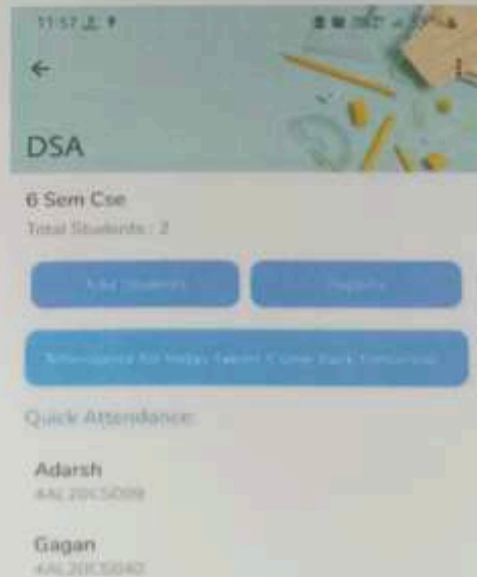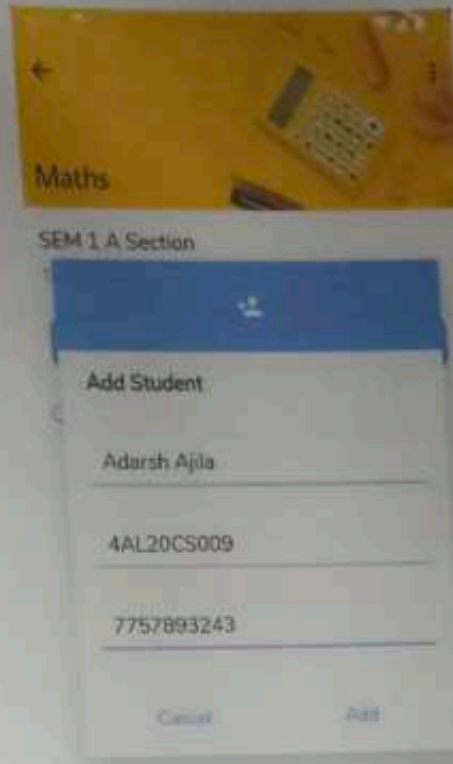

Fig 4.4 Attendance Page

Add Student

Adarsh Ajila

4AL20CS009

7757893243

Cancel   Add

Fig 4.5 Add Student Page

09-Jul-2023

Subject: DSA
Class: 6 Sem Cse
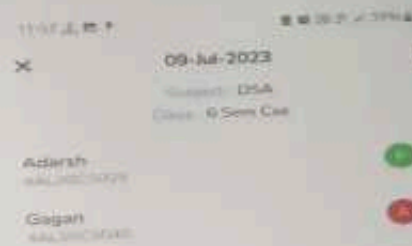
Adarsh
4AL20CS009

Gagan
4AL20CS040

Fig 4.6 View Attendance Page

CHAPTER 5

INTERNSHIP BENEFITS

After completing 90 days of internship in Qspiders, I have got an idea about different Java library files present and their use purposes in real life. This internship helps us to overcome the gap between the industrial needs. In first 30 days of internship, I learnt lot of Java technologies and framework. Its help melot in understanding basic of Java like the allocation for memory address and also with the data structures like list, tuples, lambda functions, class and objects and a bank application on class and objects as a demo. This internship helped me in debugging and error detection and correction.

CHAPTER 6

CONCLUSION

In conclusion, the Attendance App developed in Android Studio provides an efficient and user friendly solution for managing and tracking attendance in various settings such as educational institutions, workplaces, or events. The app offers several key features that streamline the attendance taking process, improve accuracy, and enhance overall administrative efficiency. Firstly, the app allows users to create and manage multiple classes or events, making it adaptable to different scenarios. It provides a comprehensive view of attendance records for each session, allowing administrators to quickly analyze attendance patterns and make data-driven decisions.

REFERENCE

[1] Website link https://developer.android.com/studio

[2] website link https://www.javatpoint.com/

[3] website link https://networkx.org/

[4] website link https://pypi.org/project/networkx/