VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belgaum: 590018

Internship report on

"EXPENSE TRACKER"

A Dissertation work submitted in partial fulfillment of the requirement for the award of the degree of

Bachelor of Engineering
in
Computer Science and Engineering

by

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Under the guidance of
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
ACHARYA INSTITUTE OF TECHNOLOGY
(Affiliated to Visvesvaraya Technological University, Belgaum)
2022-2023

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Certificate

This is to certify that the internship entitled **"Expense Tracker"** is a bonafide work carried out by **Kushagra Memani (1AY18CS059)** in partial fulfillment for the award of degree of **Bachelor of Engineering in Computer Science & Engineering of Visvesvaraya Technological University**, Belgaum during the year **2022-2023.** It is certified that all corrections/ suggestions indicated for internal assessments have been incorporated in the Report deposited in the departmental library. The Internship report has been approved as it satisfies the academic requirements in respect of Internship prescribed for the **Bachelor of Engineering Degree**.

Signature of Guide	**Signature of H.O.D**	**Signature of Principal**
Prof. _____	Dr. Ajith Padyana	Principal
Designation	Associate Professor	

Signature of Coordinator
Jawahar Jonathan K/Soniya R
Assistant Professor

External Viva

	Name of the Examiners	**Signature with Date**
1.		
2.		

Company certificate

CERTIFICATE

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Kushagra Memani (1AY18CS059)

ABSTRACT

A Python development internship is a hands-on learning opportunity for individuals interested in gaining practical experience in software development using the Python programming language. The internship typically involves working on real-world projects alongside experienced developers to design, develop, test, and maintain software applications. During the internship, I learnt about various Python libraries, frameworks, and tools used for different types of software development projects. I was also exposed to best practices in software engineering, such as version control, agile development methodologies, and software testing. As an intern, I worked on various types of projects, including web development, data analysis, machine learning, artificial intelligence, and more. The projects involved working with various technologies and platforms, such as Flask, Django, NumPy, Pandas, TensorFlow, and others. Working at Softora Pvt Ltd has given me invaluable experience for my future career. Another critical issue was resolving real-life problems. This report details all the Python Development knowledge and experience gained during this internship period.

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CHAPTER 1

ABOUT THE INDUSTRY

Softora was formed with the goal of assisting businesses and individuals in developing a stronger online presence in an increasingly digitalized environment. Softora is a company that focuses on making our clients' online presence stronger and better. They provide a comprehensive range of software development services to help your business flourish, from developing a digital plan to delivering compelling digital platforms and products. By utilising the services such as Website and App Development, Graphic Designing, Digital Marketing, Social Media Management, and many others.

Softora prioritises fast-paced interactive development and design in order to provide consumers with the best match for their ideas and concepts. From my experience in Softora, the whole organization genuinely think that every client is equally important, and they will make every effort to ensure that each client is pleased and satisfied. They are always willing and available to listen to their clients and have engaging dialogues with them to ensure that they are meeting even the smallest of their needs.

- Website:
  https://www.softora.in
- Phone:
  +91 95913 19106
- Industry:
  Technology, Information and Internet
- Headquarters:
  Bangalore, Karnataka
- Services:
  - ✓ Website Designing or Website Development
  - ✓ Logo Designing
  - ✓ E-business Card Designs
  - ✓ Template or Poster Designs
  - ✓ Flyer Designing
  - ✓ Letterhead Designing
  - ✓ Mobile App Development

- ✓ Social Media Handling
- ✓ Branding, Portfolio
- ✓ Visiting Card
- ✓ Emailer
- ✓ Marketing & Strategy
- ✓ Mass Customization

CHAPTER 2

INTRODUCTION

1.1. Internship

Internships are based on additional experiences from various organizations that will encourage bounty to make a connection between hypothetical and realistic data. It includes profitable abilities such as a usable working environment or computer instrumentation, taking care of a variety of things at the same time, sorting out or dissecting learning, budgeting, or rising collaboration, composing, and speaking abilities. Useful work environment or computer instrumentation, composing, and speaking abilities. It is critical to understand the best way to disseminate information to outsiders, managers, and colleagues. During my undergraduate program in computer science and engineering at Acharya Institute of Technology, I took a few programming courses over the last four years. However, because Python development is such an interesting yet intimidating market, it is frequently difficult to get a handle on it. So, I was interested in trying out for an entry-level position at Softora Technologies. This entry-level position report covered the entire temporary job time that I completed with progress in coding, style, and improvement.

1.2. Python

Python is a high-level, interpreted, interactive and object-oriented scripting language. Python is designed to be highly readable. It uses English keywords frequently where as other languages use punctuation, and it has fewer syntactical constructions than other languages.

- Python is Interpreted − Python is processed at runtime by the interpreter. You do not need to compile your program before executing it. This is similar to PERL and PHP.
- Python is Interactive − You can actually sit at a Python prompt and interact with the interpreter directly to write your programs.
- Python is Object-Oriented − Python supports Object-Oriented style or technique of programming that encapsulates code within objects.
- Python is a Beginner's Language − Python is a great language for the beginner-level programmers and supports the development of a wide range of applications from simple text processing to WWW browsers to games.

1.3. Python Development

The process of producing software applications using the Python programming language is known as Python development. Python is a high-level, interpreted programming language that is simple to learn and use. It is one of the most popular programming languages in the world due to its simplicity, readability, and versatility. Python can be used for web development, scientific computing, data analysis, machine learning, and artificial intelligence, among other things. Python includes a large number of libraries and frameworks that help to simplify and accelerate development. These libraries and frameworks provide pre-built modules and functions that may be reused across different projects, allowing developers to focus on addressing specific problems rather than building code from scratch. In conclusion, Python development is a versatile and strong approach to software development that provides numerous advantages to developers, such as simplicity, readability, and efficiency. Python development, with its enormous number of libraries and frameworks, may assist developers in creating software applications for a wide range of objectives, from web apps to scientific computing and machine learning.

1.4. Objectives

- To create software applications using Python programming language.
- To leverage the vast collection of libraries and frameworks available in Python to accelerate the development process and improve code quality.
- To build applications that are scalable, efficient, and easy to maintain.
- To create applications that are cross-platform and can run on multiple operating systems.
- To use Python for various types of applications, such as web development, scientific computing, data analysis, machine learning, and artificial intelligence.
- To write code that is easy to read, understand, and maintain.
- To collaborate with other developers to build high-quality software applications.

1.5. Motivation

It is crucial to be aware of hypothetical information and to act on it in the real world in order to increase our talent in the construction industry in order for an internship to provide practical experience in the fields of technology and engineering. The desire to learn more about the industry sectors and the work environment of the IT farm served as the driving force behind this internship. To increase our talent in the construction industry, it is essential that we comprehend fictitious information and apply it in the real world. The desire to learn more about the industries and working conditions of IT farms served as the driving force for this internship.

CHAPTER 3

SYSTEM DESIGN

3.1. Introduction to Python Apps

Python is a popular programming language that can be used to create a wide range of applications. Python is known for its ease of use, simplicity, and versatility, making it an excellent tool for constructing a wide range of applications. Python applications can be used for a wide range of tasks such as web development, data analysis, scientific computing, machine learning, and artificial intelligence. Python's adaptability has made it a popular choice for both developers and businesses.

Python applications can be constructed with a variety of frameworks, modules, and tools, making it simple to develop tailored solutions for individual needs. Django, Flask, and Pyramid are prominent Python frameworks for online development, whereas NumPy, SciPy, and Pandas are popular scientific computing libraries. Python's ability to deal with a variety of data types and technologies, such as databases, APIs, and web services, has made it a popular choice for developing applications that interact with complicated data sources.

Some features of Pythons Apps are:

i Easy to Learn: Python is a very readable and beginner-friendly language. It is easy to learn and understand, making it ideal for developers of all skill levels.

ii Platform Independent: Python is a platform-independent language. It can be run on various platforms such as Windows, Linux, and Mac OS without requiring any modifications.

iii Interpreted Language: Python is an interpreted language. This means that it does not need to be compiled before execution. It is interpreted on the fly during runtime, making the development process faster.

iv Dynamically Typed: Python is a dynamically typed language. This means that variables do not need to be declared with their data type before being used. Instead, the type of variable is determined at runtime.

v Large Standard Library: Python has a large standard library, providing developers with a wide range of built-in modules and functions. This makes development faster and easier, as developers do not have to create everything from scratch.

vi Object-Oriented: Python is an object-oriented language. This means that it supports object-oriented programming concepts such as inheritance, encapsulation, and polymorphism.

vii Scalable: Python is a scalable language. It can be used for small projects as well as large-scale applications. It is widely used in various fields such as web development, data science, machine learning, and artificial intelligence.

My internship in Softora Technologies handed over a project of Expense Tracker.

3.2. Expense Tracker

The proposed system is an expense tracker which is based on Python. The system includes several features that aim to improve the user experience and streamline content management. The system also has a user-friendly interface. The proposed system also has a strong focus on accessibility and inclusivity. Expense Tracker is a simple application that helps you keep track of your expenses. In this application, we can enter the date of the expense, the name of the person who made the expense, the title of the expense, and the amount spent. You can then view all your expenses in a table, and the total amount spent is displayed at the bottom of the table. The data of expenses are stored in the database using SQLite.

3.2.1. Objective

- To keep track of daily expenses and monitor spending habits.
- To help individuals stay within their budget and prevent overspending.
- To provide a clear overview of expenses and identify areas where costs can be reduced.
- To help in making informed financial decisions by providing accurate spending data.
- To create customized reports and analysis for better financial planning.
- To save time and effort by automating the process of tracking expenses.

CHAPTER 4

TECHNOLOGY USED

1. Python: Python is a great language for building an expense tracker due to its simplicity and ease of use. In this system, Python is used to handle the logic of the application, such as creating the database, handling user input, and displaying the data.

   The following libraries were used in this program:

   - Tkinter - for creating the graphical user interface (GUI)
   - SQLite - for creating and managing the database
   - tkcalendar - for adding a date picker widget to the GUI

i Tkinter: Tkinter is a standard GUI (Graphical User Interface) package for Python that may be used to create GUI applications. It is one of the most widely used Python libraries for developing desktop apps since it is simple to learn, cross-platform, and integrates well with the Python language. Tkinter is a Python wrapper for the Tk GUI toolkit. Tk is a popular open-source toolkit for creating graphical user interfaces. It includes a variety of widgets for developing sophisticated user interfaces, such as buttons, labels, textboxes, menus, and more. Because the Tkinter library is included in the standard Python distribution, we don't need to install any additional libraries to use it. It is also incredibly light, making it simple to use and deploy in a variety of contexts.

ii SQLite: SQLite is a file-based relational database management system that is used for embedded systems, small-scale applications, and testing and development. SQLite is an open-source database that may be used for both commercial and non-commercial purposes. It is not a client-server database management system like MySQL or Oracle; rather, it is incorporated within the programme and runs in single-user mode. This implies that the complete database is saved on disc in a single file, making it simple to transport and share the database between systems. SQLite is written in C and has a tiny code footprint, allowing it to be quick, dependable, and efficient. Python, Java, C++, and Ruby are among the many programming languages and systems that support it.

iii Tkcalendar: Tkinter is a Python GUI (Graphical User Interface) module, and Tkcalendar is a Python module that provides a date selection widget that is built on the Tkinter GUI toolkit. Tkcalendar is a highly customisable module that may be used to construct calendars, dropdowns, and popups, among other date selection widgets. It supports numerous date formats, internationalisation, and custom styling,

among other things. Tkcalendar makes it simple to include a date selection widget in your Python GUI application, allowing users to enter dates using a visually beautiful and simple interface. This is especially beneficial for programs that require users to enter dates on a regular basis, such as the spending tracker program.

CHAPTER 5

DESIGN ANALYSIS

Requirement Analysis: The first step is to identify the requirements for the expense tracker application. This can include the ability to add, edit, and delete expenses, view expenses, and generate reports.

Architecture Design: Once the requirements are identified, the architecture of the application needs to be designed. This can involve using a database to store the expenses, creating a graphical user interface using Tkinter, and integrating a calendar widget to input dates.

Database Design: The database needs to be designed with tables and fields to store the expense details. In this case, the expenses table needs to have fields for the date, name, title, and expense.

User Interface Design: The graphical user interface needs to be designed using Tkinter. This can include designing the layout, adding labels and entry widgets to input data, and creating buttons to submit and view expenses.

Calendar Widget Integration: The calendar widget needs to be integrated into the application using the Tkcalendar module. This can involve creating a DateEntry widget to input dates and formatting the date in the expenses table.

Development and Testing: Once the design is complete, the software can be developed using Python and the necessary modules. Testing can be done to ensure that the application is functioning correctly and meets the requirements.

Deployment and Maintenance: The final step is to deploy the application and provide ongoing maintenance and support as needed.

CHAPTER 6

IMPLEMENTATION

5.1. Implementation

The code is an implementation of an expense tracker using Python and Tkinter for the GUI and SQLite for the database management. To run the code, save it in a Python file with a ".py" extension and run it using a Python interpreter or IDE.

When the program starts, it creates a connection to the SQLite database file named "expenseTracker.db". It then checks if the "expenses" table exists, and if not, it creates it with columns for date, name, title, and expense.

The program provides a GUI with input fields for date, name, title, and expense. When the user clicks the "Submit" button, the program adds the expense to the "expenses" table in the database and displays it in a table below the input fields.

The program also provides a "View expenses" button that retrieves all the expenses from the database and displays them in the table below the input fields. Additionally, the total expense amount is displayed below the table.

5.2. TESTING

The testing phase is an important part of software development. It is the Information Zed system that will help in automating the process of finding errors and missing operations and a complete verification to determine whether the objectives are met and the user requirements are satisfied. Software testing is carried out in three steps:

1. The first includes unit testing, wherein each module is tested to provide its correctness, validity and determine any missing operations and verify whether the objectives have been met. Errors are noted down and corrected immediately.
2. Unit testing is an important and major part of the project. So, errors are rectified easily in particular modules and program clarity is increased. In this project, the entire system is divided into several modules and is developed individually. So, unit testing is conducted on individual modules.
3. The second step includes Integration testing. It need not be the case, the software whose modules when run individually and showing perfect results, will also show perfect results when run as a whole.

CHAPTER 7

RESULTS

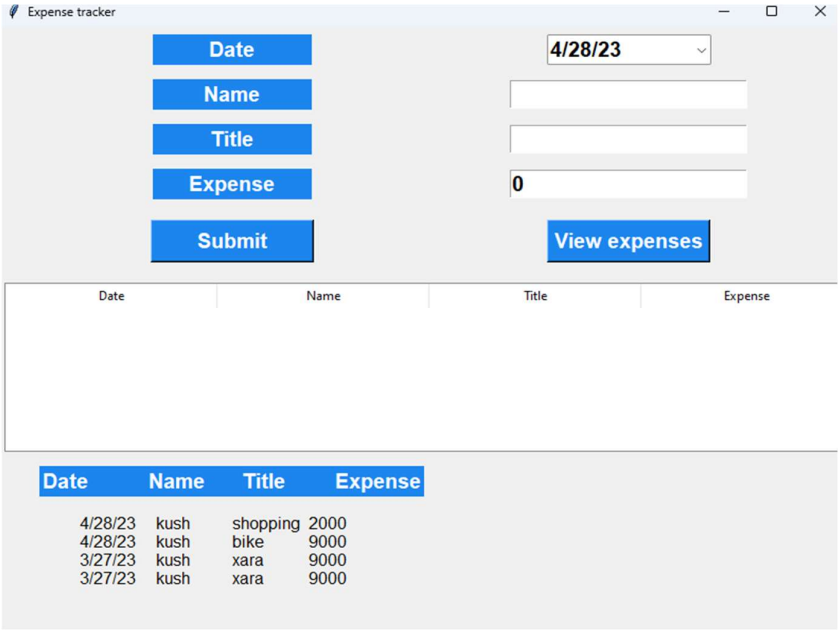

Figure 1:Front-end

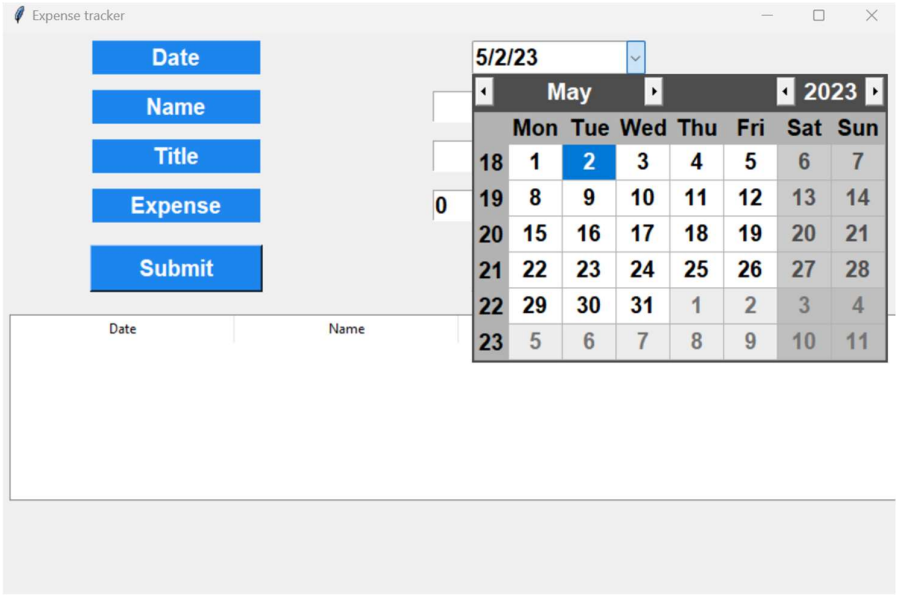

Figure 2:Date Picker

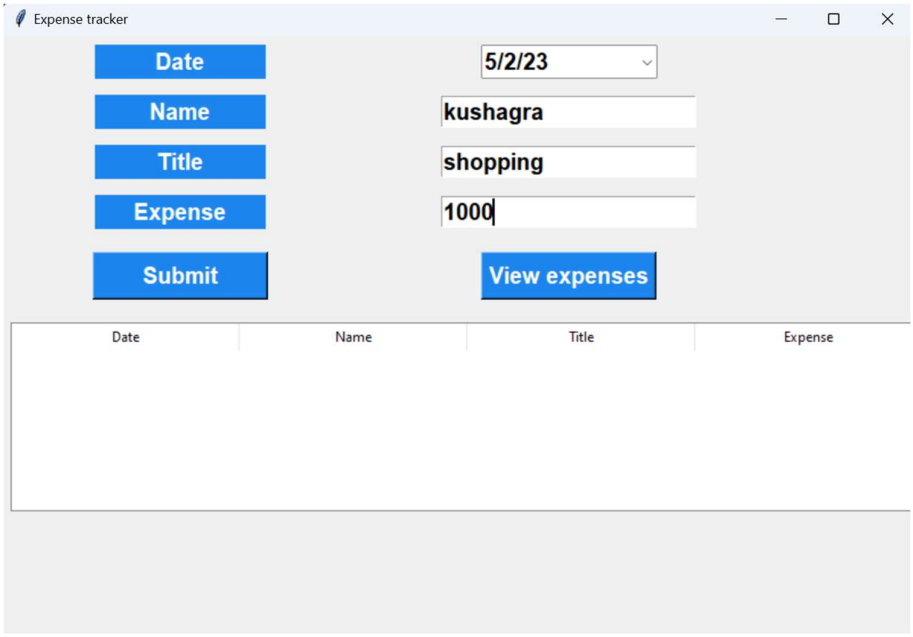

Figure 3:Expense Details

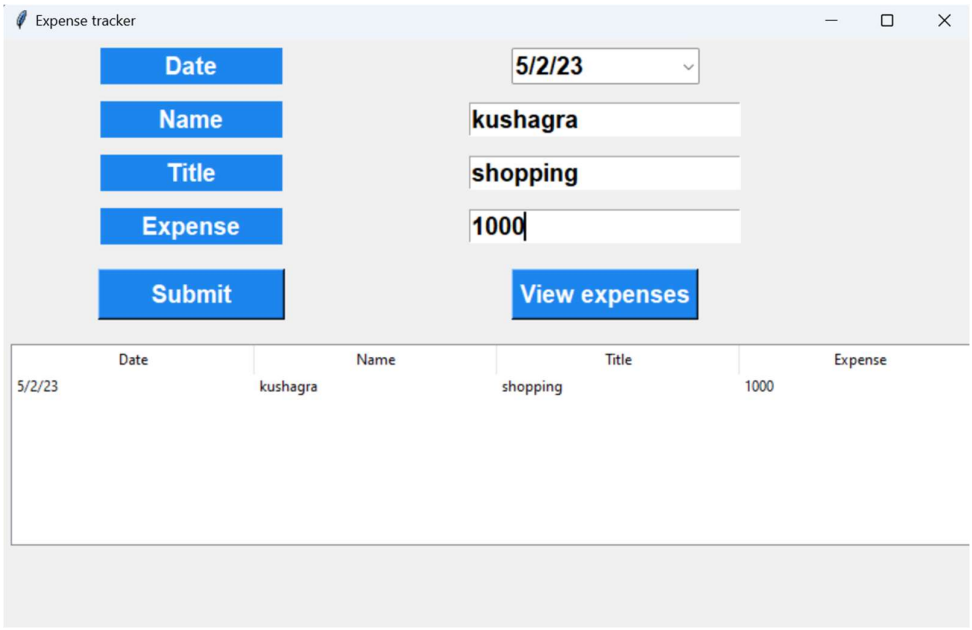

Figure 4:Expense added in the database

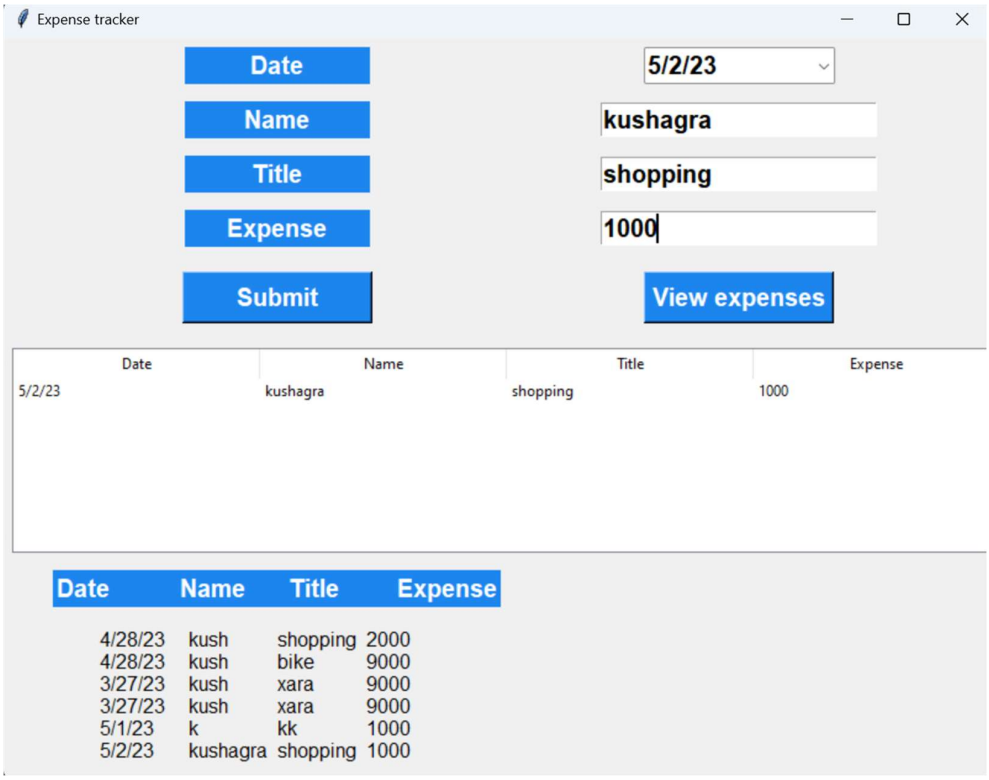

Figure 5:Expense Database

CHAPTER 8

LEARNING OUTCOMES

1. Strong foundation in Python programming: An internship in Python development will give you a strong foundation in the language's syntax, data types, and control structures.

2. Real-world coding experience: As an intern, you will have the opportunity to work on real-world coding projects, which will help you gain hands-on experience and exposure to real-world coding challenges.

3. Familiarity with Python libraries and frameworks: Depending on the specific internship, you may also gain exposure to popular Python libraries and frameworks, such as Django, Flask, NumPy, Pandas, etc.

4. Collaborative skills: Python development internships often require you to work in a team, collaborating with other developers, project managers, and stakeholders. You will learn how to effectively communicate and work together to deliver high-quality software solutions.

5. Debugging and troubleshooting skills: A significant portion of any development project involves debugging and troubleshooting code. During your internship, you will learn how to identify and fix issues in Python code, and develop a problem-solving mindset.

6. Professional development: Working as a Python developer intern will expose you to the professional world of software development. You will learn about industry best practices, coding standards, project management methodologies, and other important skills for a successful career as a developer

STIPEND RECEIVED DETAILS

It was an unpaid internship.