

INTERNSHIP REPORT

SAHIL SHAIKH

2067

Helix Tech Infosystems Pvt. Ltd.

Goa University

REPORT OF INTERNSHIP DONE AT HELIX TECH INFOSYSTEMS PVT. LTD

SUBMITTED BY:

Sahil Shaikh Roll No: 2067

FOR THE PARTIAL FULFILMENT OF

MCA Degree for Semester VI

Discipline of Computer Science and Technology,
Goa Business School,
Goa University

AT

Helix Tech Infosystems Pvt. Ltd. Villa HT, Plot No. 45, H.No. 854/1A, Journalist Colony, Alto-Porvorim, Goa

UNDER THE GUIDANCE OF

Mr. Manthan Sutar
(Flutter Team Lead, Helix Tech)

Mr. Niranjan Naik (Project Manager, Helix Tech)

INTERNSHIP CERTIFICATE



Date: 02rd June 2023

To Whomsoever It May Concern

Dear Sir/Ma'am.

It is our pleasure to write about Mr. Sahil Shaikh, who has worked with Helix Techin Info Systems Pvt. Ltd. (hereinafter referred to as "HELIX") in the capacity of Software Developer Intern – Flutter from 06/03/2023 – till date.

During the aforementioned tenure of his work here, Mr. Sahil remained involved in his work with determination and sincerity. We found him active and competent in executing all assigned tasks.

Sincerely,

Ms. Valzera Rodrigues Sr.HR/Admin Executive

Helix TechIN Info Systems Pvt. Ltd CIN: U72300GA2014PTC007419

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GOA UNIVERSITY HELIX TECH

GOA UNIVERSITY



GOA BUSINESS SCHOOL

CERTIFICATE OF EVALUATION

This is to certify that Mr. Sahil Shaikh has been evaluated for the project work titled "Report of Internship done at Helix Tech Infosystems Pvt Ltd" undertaken at Helix Tech Infosystems Private Limited, Goa in partial fulfilment for the award of the degree in Master of Computer Application.

Examiner 1

Tysh D. Parray

Place: Goa University

Date: 15/06/2023

Examiner 2 [Kiron Kulkarni]

Dean, Goa Business School

ACKNOWLEDGEMENT

Interning in a company is a golden opportunity for learning and self-development specially to have so many wonderful people who led me through this internship period. I would like to express my gratitude and appreciation to all the people who helped me in the completion of my internship.

I would like to thank Mrs. Jyoti Pawar (Dean, Goa Business School, Goa University), Mr. Ramdas Karmali (Prof. and TPO, MCA, Goa Business School, Goa University), Mr. Ramrao Wagh (Program Director, MCA, Goa Business School, Goa University), Mr. Hanumant Redkar (Assistant Prof, MCA, Goa Business School, Goa University) and all the faculty of MCA, Goa University for their constant encouragement and support during the project work.

I would also like to thank Mr. Kunal Kerkar (CEO, Helix Tech), Mr. Niranjan Naik (Project Manager, Helix Tech) and Miss. Valzera Rodrigues (HR/ Admin Executive, Helix Tech) for giving me the opportunity to intern at Helix Tech Infosystems Private Limited.

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INTRODUCTION

This report is a short description of my on-site internship at Helix Tech, Goa.

I joined as an Intern at Helix Tech on 6th March 2022 and have been here since then. This report contains necessary information about the organization, the projects and mini projects I worked on and the other tasks and special trainings I completed in this internship period.

In the chapters that will follow, I will talk about the company, the work here, the culture, etc. Then, I shall elaborate on the projects I worked on, a brief information about the projects, the modules I built and the tasks I completed in those modules.

This report highlights my learning experience and my contributions to the organization as an intern. This will describe the knowledge that I gained by successfully completing the tasks that were assigned to me.

I'll also be talking about the tools and technologies that were used followed by my internship timeline.

I shall conclude by sharing my experience and how it has helped me to grow, both, on the personal and professional front.

COMPANY PROFILE

Helix Tech Infosystems Private Limited is an IT company based in Porvorim, Goa, India. It was founded in 2013 by two IT graduates who started building mobile apps during the rise of Indian startups and the increasing popularity of smartphones. Over the past five years, Helix Tech has consulted on over 500 mobile apps for more than 100 clients across six continents.

The company's primary goal is to amaze its clients by delivering high-quality software that runs smoothly, strategically, and predictably. They have become an award-winning mobile-first technology partner to both big and small entities, offering end-to-end turnkey software solutions. Helix Tech has been recognized as the "Company of the Year" by CIO Review and ranked among the top 30 companies to watch out for by Silicon Review.

Helix Tech is also involved in a non-profit initiative called HT for STUDENTS, where they educate and train students in app development every summer at their headquarters in Goa. Additionally, they serve as a practice school station for BITS (Birla Institute of Technology and Science).

The company specializes in various areas:

Mobile Design:

Helix Tech excels in turning ideas into visually polished and smooth mobile apps. Their designers possess deep expertise in design and technology, allowing them to understand how to achieve strategic goals and deliver delightful products with exceptional interactions and a seamless user experience.

App Development:

By hiring the best talent available, Helix Tech creates outstanding mobile experiences. Their team combines different perspectives and challenges to swiftly deploy customized solutions for each project, ensuring personal development and team capability.

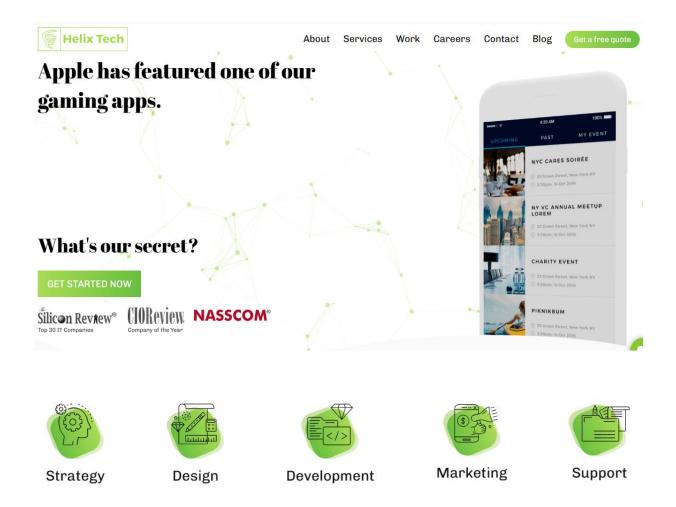
Mobile Marketing:

Helix Tech carefully crafts apps that provide remarkable experiences for users, regardless of the platform they are on. They spend countless hours on product strategy, design, and functionality to engineer beautiful apps that deliver measurable business outcomes.

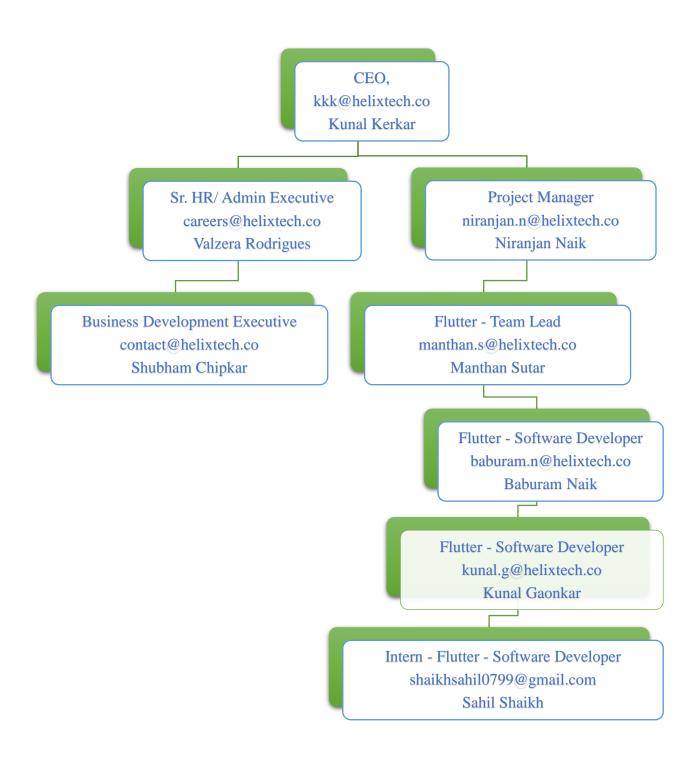
App Support:

Understanding the importance of a smoothly running app, Helix Tech provides full support through a highly qualified and trained team. They offer four different support plans to choose from, analysing and solving problems to ensure a glitch-free user experience.

Overall, Helix Tech Infosystems Private Limited is a reputable company that specializes in mobile app design, development, marketing, and support. They strive to deliver high-quality software solutions and have gained recognition in the industry for their expertise and commitment to client satisfaction.



⇒ ORGANISATION



DESIGNATION AND ROLES AS AN INTERN IN COMPANY

Designation:

Software/Flutter Developer Intern

Roles as an Intern:

- It involves learning and gaining hands-on experience in app development. An

opportunity to work on developing an app from scratch, starting from the basics and

progressing towards more advanced concepts.

- Collaborating with the Team and working closely with experienced developers and

designers in the company.

- Actively contributing to the development of an app under the guidance of the senior

team members. This may involve tasks such as coding, debugging, testing, and

implementing new features.

- Actively troubleshooting and finding solutions to ensure the smooth functioning of the

app. Develop Problem-solving skills and enhance the ability to handle real-world

development challenges.

- Staying updated with the latest industry trends, learning new programming languages

or frameworks, and exploring best practices in app design and development.

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PROJECT TASKS

Emcure – Android/IOS App (Mobile App)



Problem Statement:

Front End: Develop an Emcure task management module that enables managers to assign tasks to themselves and Medical Representatives (MRs) efficiently. The module should provide a user-friendly interface for task management with both online and offline capabilities.

Back End: Store local data for offline usage, so the application does not require internet all the time and can be used on-the-go.

Overview:

Emcure App is an Android application that the Managers & Medical Representatives must download on an Android/IOS mobile and use it as a tool to manage all their filing tasks easier and save time.

It is an on-going project which is still under development.

Tools and Technologies used:

- Flutter
- Dart
- Gradle
- Android Architecture components
- Git
- Hive (Local Database)
- Firebase (Analytics and Crashlytics)

My Contributions:

I was assigned to rebuild and develop the existing task management module of the Emcure app using Flutter and Dart. The original app was built using Java, and my task involved recreating the module using the Flutter framework to enhance its performance, user experience, and cross-platform compatibility.

My main contributions were focused on designing and creating the user interface for different screens, as well as implementing important functionalities.

Here's a breakdown of my specific contributions:

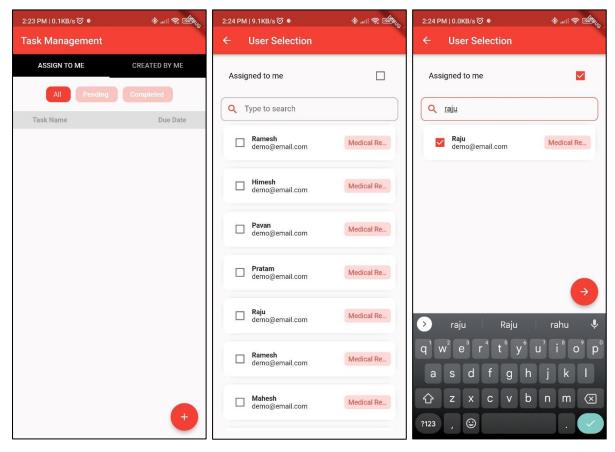
User Interface Design:

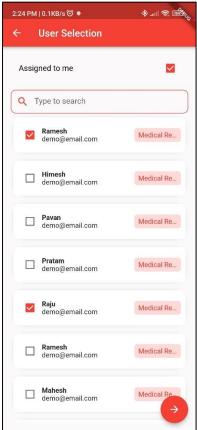
- Task Assigned Screen: The screen displaying assigned tasks was designed and developed. It presented a clear and organized view of tasks, including their titles and deadlines.
- User Selection Screen: A user-friendly screen was created for managers to easily select medical representatives from a list and assign tasks.
- Create New Task Screen: The user interface was developed to allow managers to create new tasks by entering details like task title, description, and deadline.
- Task Details Screen: A screen was designed to provide comprehensive information about specific tasks, enabling managers to view task details, update task status, and add remarks or comments.

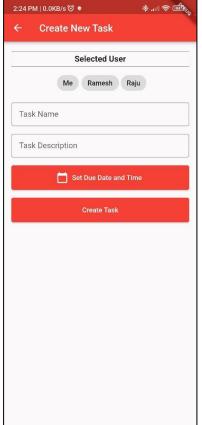
Functionality Implementation:

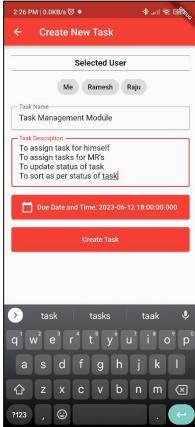
- Fetching Users & Search Functionality: Functionality was implemented to retrieve user data from the system, facilitating the selection of medical representatives by managers. A search feature was integrated to enhance convenience in assigning tasks.
- Create & Save Tasks: Functionality was developed for managers to create new tasks, ensuring accurate capturing and secure storage of relevant information.
- Displaying Tasks on Task Assigned Screen & Sorting Filter: The system was
 programmed to fetch and display assigned tasks on the Task Assigned Screen. A
 sorting filter was also implemented to allow managers to filter tasks based on specific
 criteria such as pending or completed, enhancing task management efficiency.
- Task Details/Update Status & Add Remark: Features were implemented on the Task Details Screen, enabling managers to view task details, update task status (e.g., completed, on-hold & pending), and add remarks or comments as necessary.

Screenshots:



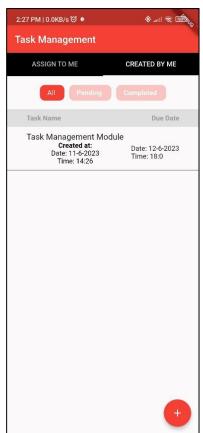


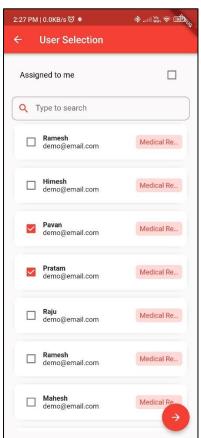




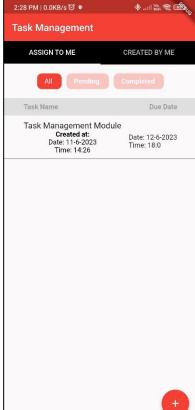


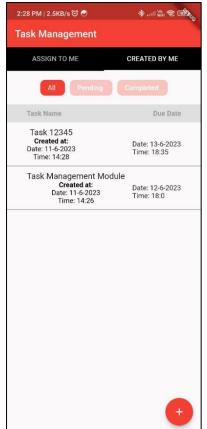




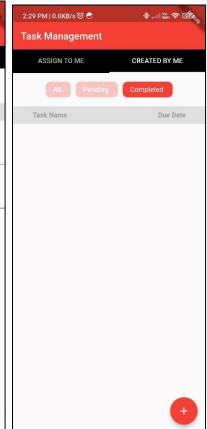


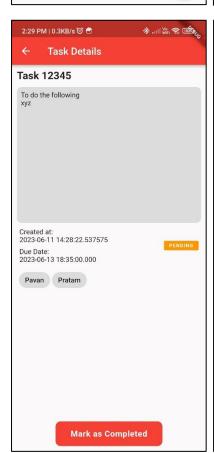


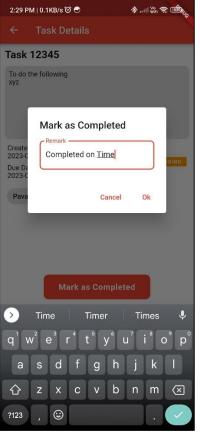




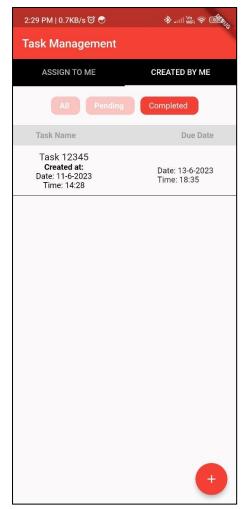


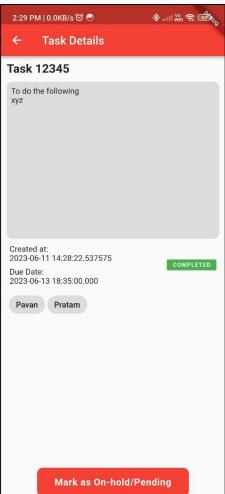












OTHER ADDITIONAL TASKS

NOTES APP WITH HIVE AND PROVIDER – [TEST]

Problem Statement:

Front End:

- Allow users to register themselves and create, delete, search for notes effortlessly with a user-friendly interface.

Back End:

- Store local data for offline usage, so the application does not require internet all the time and can be used on-the-go.

Overview:

The Notes App is a mobile application that allows users to create, manage, and search for notes. It provides features like user registration, trash functionality, and a reset option for convenient organization and retrieval of information.

Tools and Technologies Used:

- Flutter
- Dart
- Gradle
- Android Architecture components
- Provider
- Hive
- Visual Studio Code
- Git

My Contributions:

I was assigned to develop a Note App that allows users to create and manage notes efficiently. And I was provided with a set of requirements for the app, outlining the desired features that needed to be implemented.

The app was expected to include the following:

- User Registration:

 The app should prompt new users to provide their name, age, and gender during the initial launch. Once registered, this screen should not be shown again.

- Home Screen:

 After registration, the app should display a home screen where users can view a list of their saved notes and add new ones.

- Note Creation:

• Users should be able to create new notes with a title, description, and datetime. The app should save each note in a local database using Hive.

- Trash Functionality:

 Users should be able to delete notes, moving them to a trash section. The app should provide the option to permanently delete or restore notes from the trash.

- Trash Screen:

 Deleted notes should be moved to a separate trash screen, where users can view and manage them. The app should allow users to delete notes permanently or restore them to the home screen.

- App Version:

• The app should display the current version number, which can be obtained from the pubspec.yaml file.

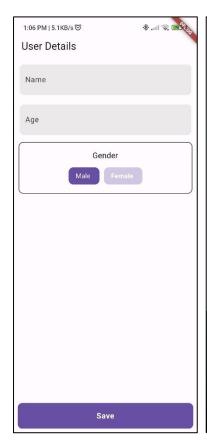
- Search Filter:

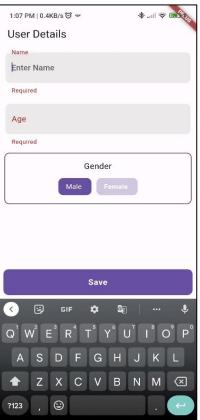
• The app should include a search feature that enables users to search for specific notes based on keywords or titles.

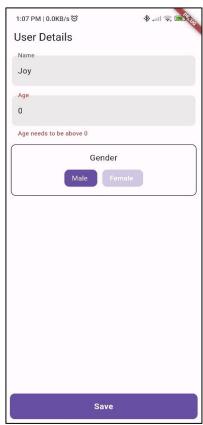
- Reset Feature:

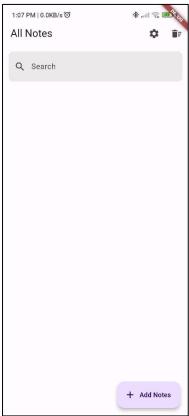
• The app should have a reset option in the settings, allowing users to reset the app and delete all data, including user details, notes, and trash.

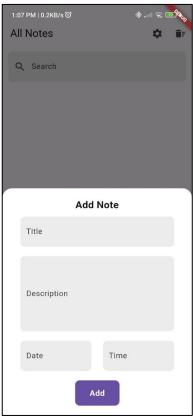
Screenshots:

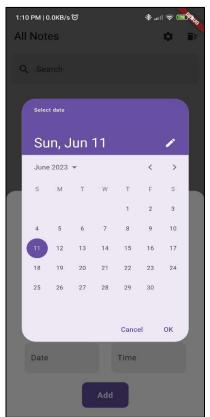




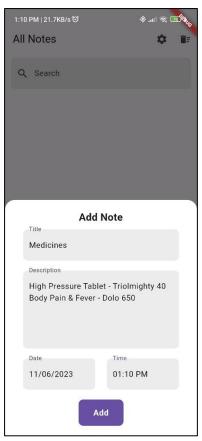




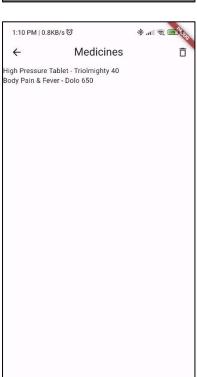


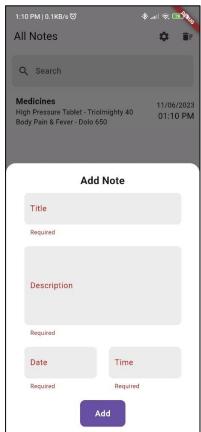




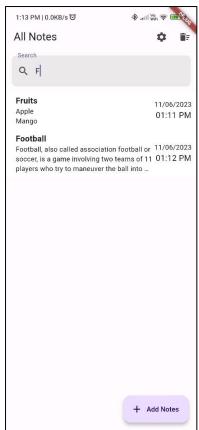


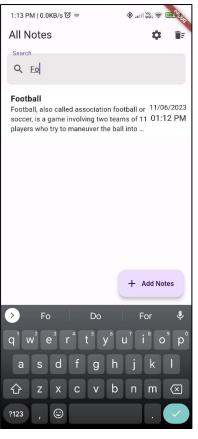








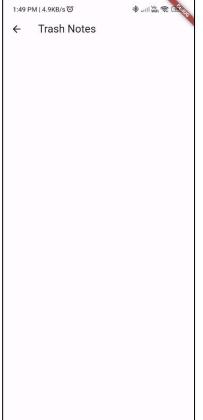




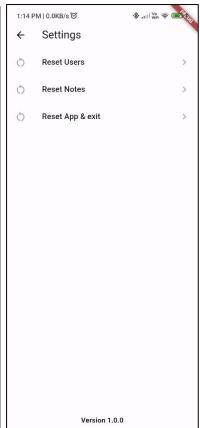


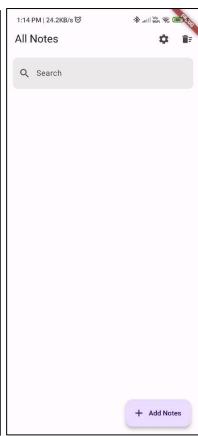














CERTIFICATIONS AND TRAININGS COMPLETED

Udemy Certifications:

- "Flutter & Dart The Complete Guide [2023 Edition]"
 - A Complete Guide to the Flutter SDK & Flutter Framework for building native iOS and Android apps
 - By Maximilian Schwarzmüller
- 1. Setup and Introduction
- 2. Learning Flutter & Dart from Basics
- 3. Building Demo Apps
- 4. Running Apps on Different Devices
- 5. Debugging
- 6. Learning Widgets, Styling & theming
- 7. Adding Interactivity & Logic
- 8. Building Responsive and Adaptive User Interface
- 9. Building multiscreen apps & navigating between screens
- 10. Animations and Transitions
- 11. State Management
- 12. Working with User Input and Forms
- 13. User Input Handling
- 14. Sending HTTP Requests
- 15. Backend Integration
- 16. User Authentication
- 17. Using Native Device Features
- 18. Push Notifications & more using flutter and firebase

SELF-STUDY

YouTube Tutorials:

- Learn Flutter Clean Architecture & TDD Full Course (Flutter Tutorial) YouTube
- Flutter Multiple Language App | Localization Support YouTube
- Build Flutter App with Hive and Provider #AppShowcase YouTube
- Flutter 3.0 & Rest API crash course, build a store app YouTube
- How to call platform specific code in Flutter Programming Addict YouTube
- What is Model Classes? And how to create it \(\mathbb{O} \| \) Consuming a Rest API \(\mathbb{O} \) in Flutter YouTube
- Flutter Full Tutorial For Beginner | Use of Gesture Detector Widget in Flutter | Lecture 7.6 YouTube
- Flutter Tutorial 1/2 Todo App UI From Scratch (Provider) YouTube

TOOLS AND TECHNOLOGIES USED

Android



Android is an open-source mobile operating system developed by Google. It is based on the Linux kernel and is designed primarily for touchscreen mobile devices such as smartphones and tablets. Android provides a rich ecosystem of apps, games, and services through the Google Play Store.



Flutter

Flutter is an open-source UI software development kit created by Google. It allows developers to build beautiful and high-performance applications for multiple platforms using a single codebase. Flutter uses the Dart programming language and provides a rich set of pre-designed widgets and tools for building user interfaces. It offers a reactive framework, hot reload for instant UI updates, and native-like performance on different platforms.



Dart

Dart is a programming language developed by Google. It is designed to be fast, object-oriented, and easy to learn. Dart can be used for both client-side and server-side development. With its strong typing and just-in-time compilation, Dart enables developers to build efficient and scalable applications. Dart is the primary language used for building applications with the Flutter framework.



Git

Git is a distributed version-control system widely used in software development. It allows multiple developers to collaborate on a project by tracking and managing changes to source code. Git provides features like branching, merging, and version history, which make it easier to manage code changes and track progress. It is known for its speed, scalability, and flexibility.



Postman

Postman is a popular collaboration platform and API development tool. It simplifies the process of designing, building, testing, and documenting APIs. With Postman, developers can make API requests, create automated tests, monitor API performance, and generate documentation. It provides a user-friendly interface and a variety of features to enhance API development and collaboration among team members.



Firebase

Firebase is a comprehensive platform developed by Google for building mobile and web applications. It offers a wide range of services and tools to support various aspects of app development, including authentication, real-time database, cloud storage, hosting, analytics, crash reporting, and more. Firebase simplifies common app development tasks and provides a scalable and secure backend infrastructure.



Hive (Local Database)

Hive is a lightweight and fast key-value database written in Dart. It is designed for local data storage in Flutter and Dart applications. Hive offers a simple and intuitive API for storing and retrieving data efficiently. It can be used for persisting small to medium-sized datasets locally on the device.

REST API



A REST API is a web-based interface that enables client applications to communicate with web services using standard HTTP methods. It follows the principles of REST, allowing for scalable and interoperable systems. REST APIs are widely used due to their simplicity, statelessness, and ability to work across different platforms and programming languages, making them a popular choice for building distributed systems and integrating software components.



Visual Studio Code

Visual Studio Code is a free source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring and embedded Git. Users can change the theme, keyboard shortcuts, preferences and install extensions that add additional functionality.



Android Studio

Android Studio is the official IDE for Android development, providing a wide range of tools and features. It supports languages like Java and Kotlin, facilitates efficient app writing, testing, and debugging, and offers resources for UI design and performance optimization, enabling developers to create high-quality Android apps.

INTERNSHIP TIMELINE

March 2023

- Week 2
 - Formal Orientation & Onboarding Process
 - Installation and setup of Development Tools
 - Introduction to Flutter and Dart
 - Understanding Dart programming language basics
- Week 3
 - o Building your first Flutter app
 - Working with widgets and layouts
 - Managing state in Flutter
- Week 4
 - Advanced state management techniques (Using Provider)
 - Handling user input and gestures
 - Navigation and routing in Flutter apps

April 2023

- Week 1
 - Building responsive and adaptive UIs
 - Styling and theming Flutter apps
 - Working with animations and transitions
 - Using Flutter's built-in material and Cupertino widgets
 - o Implementing complex UI patterns (Like ListView & GridView)
- Week 2
 - Fetching and displaying data from APIs
 - Working with HTTP requests in Flutter
- Week 3
 - Storing and retrieving data using local storage
 - o Learning and implementing Hive Database Concepts

- Week 4
 - Implementing Firebase integration in Flutter
 - Using plugins and packages to extend Flutter functionality
 - o Testing and debugging Flutter apps

May 2023

- Week 1
 - o Learning Code structure and reusability
 - App submission procedure to play store
 - Writing Advanced Flutter Applications
 - Learning Postman
- Week 2
 - o Implementing REST API & testing with Postman on Demo Project
 - o Building a To-do's app with Hive & Provider (Test)
- Week 3
 - o Notes App with Hive and provider (Test)
- Week 4
 - o Emcure App Task Management Module
 - o Design UI screens for task list, user selection, task creation and task details.
 - o Develop the functionality for selecting users and assigning tasks.
 - o Implement task creation and storage using a local database.
 - o Implement search functionality on the User Selection Screen.

June 2023

- Week 1
 - Emcure App Task Management Module
 - Integrate a sorting filter on the Task Assigned Screen to allow managers to filter tasks based on criteria like pending or completed.
 - o Add functionality to update task status and add remarks/comments.
 - o Test, debug, and optimize the module for performance and usability.
- Week 2
 - o ON LEAVE

AT HELIX TECH PVT. LTD.

My internship at Helix Tech has been an amazing and valuable experience that has taught me a lot.

Every day at Helix Tech brings new challenges, which has helped me grow and learn. The company encourages a strong desire for knowledge among its employees. Working on real-life projects in the industry has been a great learning opportunity.

I have always felt supported at Helix Tech. I had the freedom to interact with and seek guidance from anyone in the company. The friendly and collaborative environment made me feel comfortable and encouraged me to ask for help.

The guidance and mentorship I received at Helix Tech made difficult tasks easier. I was able to handle multiple tasks at the same time and fulfil my commitments. This experience has transformed me into a more confident and capable person, ready to face any challenges that come my way.

Overall, I am very happy to be part of Helix Tech. My internship has provided me with valuable working experience, and I wish everyone at the company the very best.

REFERENCES

- https://developer.android.com/
- https://dart.dev/
- https://docs.flutter.dev/
- https://docs.hivedb.dev/#/
- https://git-scm.com/
- https://firebase.flutter.dev/
- https://firebase.google.com/docs/build
- https://learning.postman.com/docs/introduction/overview/
- https://www.postman.com/
- https://www.helixtech.co/