Site Data Visualization Application

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***Abstract*— Nowadays remote and work from home concept is increasing and system is greatly adapting according to it. 'Remote Capabilities' have many advantages like cost-reduction, remote monitoring, remote access...etc. Industry demands the same, as more data is relayed and can be monitored remotely using smart phone application which opens many doors of features and functionalities which enhances remote capabilities. In this paper, an app is proposed which visualizes the sites' data using charts.**

Keywords—App Development, Android, iOS, Flutter, Remote, Industry

I. Introduction

As mentioned, remote capabilities have great cons, hence an application which visualizes on-site data which has numerous parameters and plots a graph of same. Smartphone applications create great services and functionalities for remote access and monitor. Application named "SiViz" i.e., Site Visualization App is built on flutter framework for site data visualization. App has not only data visualization feature but also many features like site's location on google map, authentication, and authorization feature and many more.

II. Implementation details

Basic framework is built on flutter framework on VS code Editor which can be installed on Android as well as iOS platforms. Firstly, app logo is displayed as app is launched on phone and as per flow user is prompted for authentication screen i.e., Login/ Signup Screen, user can authenticate its identity and is prompted to main home screen of application which built using Scroll View and Card View. Home screen contains sites which user want to access with name, logo and address of that site. Each card has two features which are 'visit site' and 'data'. Visit site feature takes user to actual location of site on google map, this feature is implemented using google map API. Data feature in Card takes user to real time data and parameter visualization that is line chart is plotted with real time data. Real time data from site is fetched from rtdb of google's firebase and its API refer Fig01. Firebase is used for two features, for authentication and for real time database. Application is highly responsive and has simple and lucid UI for interaction.

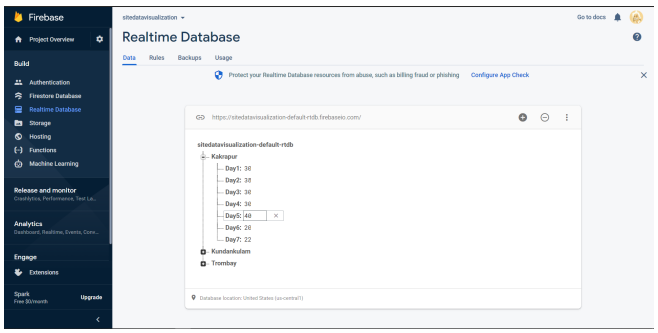

Fig01. Firebase Realtime Database.

Fig02. Login/Signup Screen.

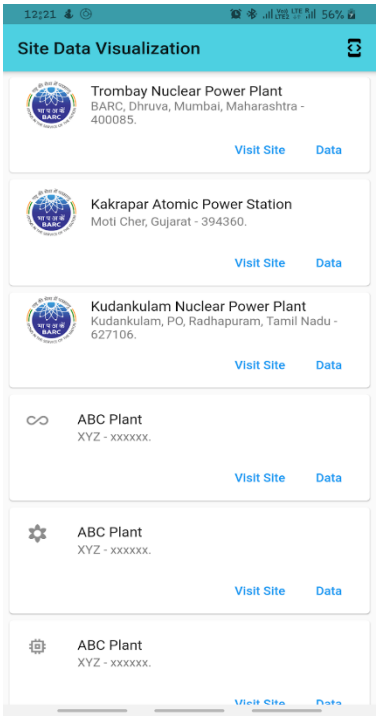

Fig03. Home screen

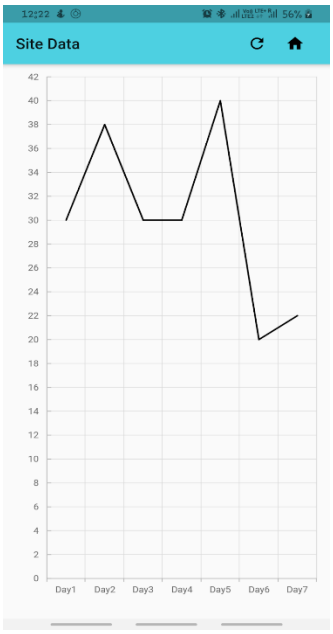

Fig04. Data visualization screen.

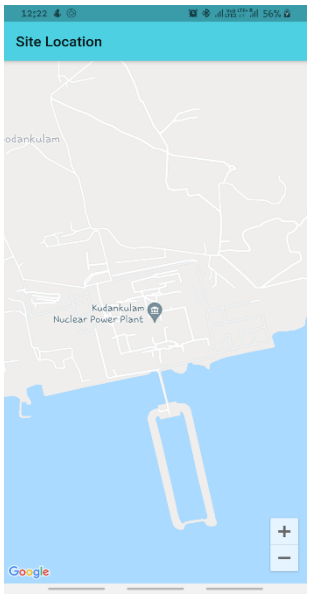

Fig05. Site location on google maps.

III. Flowchart

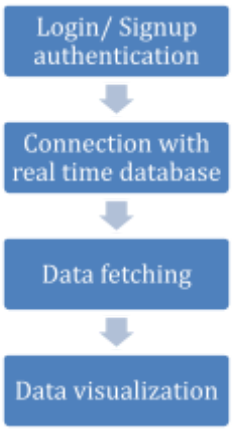

Fig06. Flowchart

IV. Output Application

As discussed above after adding all key features and functionalities, the SiViz app has following features:

- Real time data visualization.
- Authentication feature (login and password).
- Site Location visualization on Map.
- Multiple sites' data in single App.
- Simple and lucid UI.

V. Conclusion

Successfully built an app for site data visualization with real time functionality.

VI. Future Scope

Many new features can be added in application with immersive UI/UX, data analytics part can be added natively on app.

V. References

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