SYNCIFY - AN INTEGRATED ANDROID-BASED PLATFORM FOR JOB RECRUITMENT, SOCIAL INTERACTION, AND RESUME ANALYSIS USING FIREBASE REALTIME DATABASE

1st Harishraj V
M.Sc. Data Science and Business Analytics,
Department of Advanced Computing And Analytics
Vels Institute of Science, Technology & Advanced Studies, Chennai, India.
harishvels5603@gmail.com

2nd Ms R. Jeyashree, M.Sc
Assistant Professor,
Department of Advanced Computing And Analytics
Vels Institute of Science, Technology & Advanced Studies, Chennai, India.
rjeyashree.scs@vistas.ac.in

Abstract - ***In this paper, an Android application named Syncify, that incorporates all the features of job searching, social media and building resumes in one application is proposed. Syncify is implemented using Java and XML, which is based on the Firebase Realtime Database. Hence, real time synchronization of data and easier user interface is guaranteed. In Syncify, users can make profiles, share job listings, can take part in discussions about job listings and can build their resumes for applying for job listings. In addition, a resume analysis tool that gives information about the level of user's knowledge about the required skills for jobs and suggests improvements in terms of required skills for jobs is proposed. Consequently, the proposed application is tried to provide ease for users to search for jobs by removing the necessity for the use of many career aids, at the same time having all the features that a career aid application may have, in a flexible and open mobile application structure.***

Introduction

If our digital lives were to be narrowed down to just social media, what apps do we use? Most people's digital lives are comprised of numerous apps for social media, job searching, creating and sharing CV's etc. As a developer, we see the many benefits and downsides to these applications and wanted to bring an all in one social media application, named Syncify.

Our idea for Syncify was to develop a native Android application using Android Studio, that offers all the functionalities in one single place. Utilising Firebase Cloud, we created a real time database system which allows the application to seamlessly synchronise with real time data. Syncify has been developed to take a more functional approach to providing these services.

Literature Survey

While many platforms tend to focus solely on one part of career development, a job portal will usually only display job listings, social media only provides a channel for communicating with colleagues, and resume builders, while capable of producing beautiful resumes, will rarely provide career development assistance. Using insights from data mining, Syncify's team of developers was able to identify resume analysis capabilities that allow them to determine gaps in key skills required by hiring managers to maximize one's employment prospects, as well as leveraging the benefits of cloud computing which enable applications to scale with explosive growth and provide up-to-date, on-demand access to information. At Syncify, they tie it all together with one of the only real-time, cloud-based career development platforms for employers and recruiters looking to attract and keep the best candidates, as well as for job seekers looking to expand their network, find employment and professionally develop their skills.

Proposed Methodology

Syncify is an application based on client-server approach that utilizes Firebase Realtime Database as a backend and Android as a frontend. The application starts with user authentication (Registration/Login). After successful authentication, it takes the user to the dashboard having a list of new posts along with links to other sections like Job, Forum and Resume. The

user can post a job, share some media or discuss various topics in the forum. In resume section, the user can update his career details. The Resume Analysis Tool fetches the keywords, matches the user skills with job description and produces a report stating the strong and weak areas of the user. The data is stored and fetched from Firebase Realtime Database efficiently due to the real time approach of the database.

Operational Procedure:

- **User authentication:** Firebase data management and safe user registration and login procedures.
- **Main Dashboard:** Offers access to modules and integrates media posts and recruitment.
- Recruitment Module: Posting jobs and informing the public.
- **Discussion Module:** Posting and commenting by users facilitates knowledge sharing.

This Resume Module integrates all the professional data that a user inputs about his qualifications, skills, experience, etc and stores them in the database.

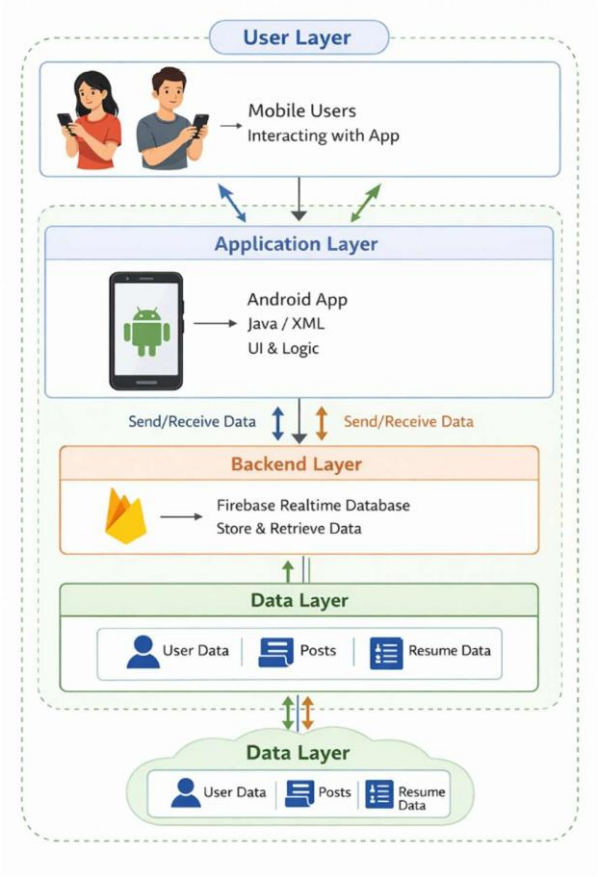
We are able to extract keywords from the resume, compare skills listed, and generate reports.

Resumes, postings, and user data are all included in the profile module.

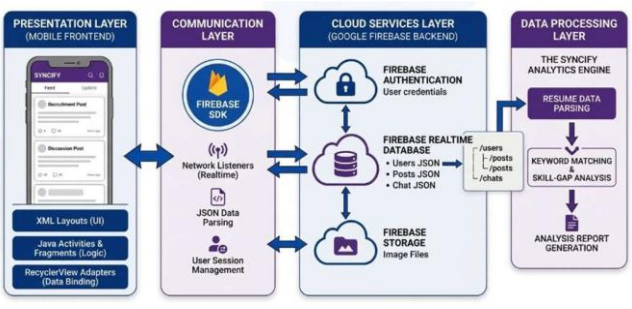
System Architecture

The architecture of the system consists of four layers:

- User Layer: This layer represents the Mobile User and his interaction with the system through the mobile application.
- Application Layer: Using Java and XML, an Android application will be created.
- Our server project is currently employing a Backend Layer that utilizes Realtime Firebase for data storage and retrieval.
- Data Layer: This is the store where all your postings, resumes and user information will reside.
- Data is updated in real time, because the hierarchy enables efficient communication between the individual layers.



Architecture Diagram 1.0



Architecture Diagram 2.0

Development Phases

The following stages are included in the Syncify development lifecycle:

- Requirement analysis includes system specs and user requirements.
- System Design: Database schema design and XML user interface design.
- Implementation: The code is implemented using Firebase and Java.
- Testing: To ensure proper and correct and reliable implementation of code to be written, debugging has to be done.
- Distribution: On Android, the application is installed on a device after packaging as an APK.

Input Handling

The following XML-based user interfaces are used by Syncify for handling the following input types:

- The plugin captures user data, for example the user's password and email address, for authentication.
- Name, biography, and links are all part of the profile information.
- Job postings that contain the job description, company, and job.
- media posts with both text and image material.
- details from a resume, such as experience, education, and talents.

Implementation Details

The program is written in Java programming language and uses Firebase for storing and synchronizing data and the XML file for designing the application interface to get accurate results.

Pseudocode Overview

```
START
OPEN application
IF user is not registered THEN
  REGISTER user
ELSE
  LOGIN user
END IF
DISPLAY main dashboard
WHILE app is active
  SELECT module
  IF recruitment module THEN
    UPLOAD job post
  ELSE IF discussion module THEN
    POST message
  ELSE IF resume module THEN
    ENTER details, SAVE data
    PERFORM resume analysis
  END IF
END WHILE
END
```

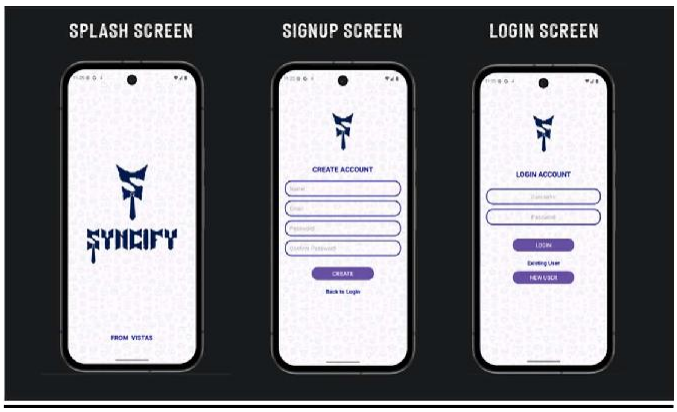
Results and Discussion

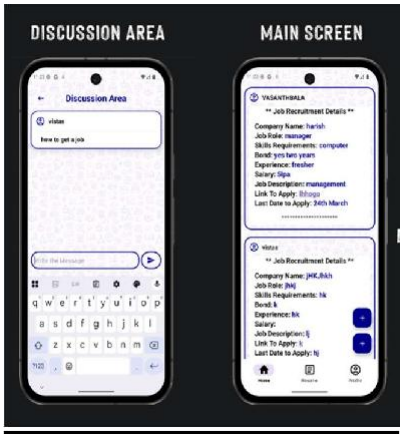
The Syncify application has now been fully built and tested for all intended functionalities. We have finally implemented the Firebase real-time data synchronisation.

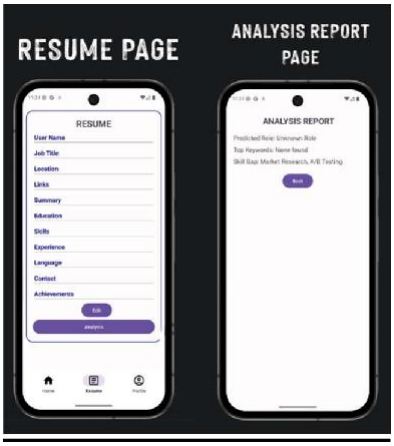
Syncify Has Been Found Highly Efficient. The Resume Analysis Module provides a valuable aid to help users pinpoint gaps in required skill sets for any given job. Syncify has proven to be more user friendly in comparison to traditional job search and resume related software as it has integrated all of the tools you need into a single, intuitive platform to boost your productivity.

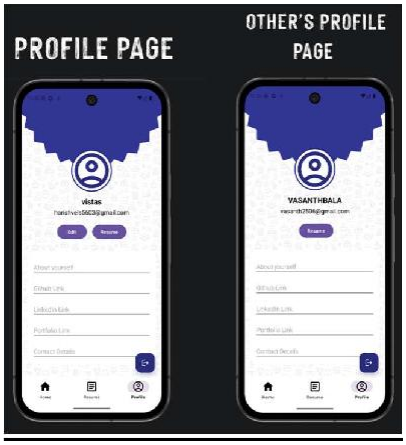
Output and Screenshots

The application has multiple UIs such as a Splash Screen, Login Screen, Home Dashboard Screen, Resume Input Screen, Analysis Report Screen and User Profile. More UIs can be implemented in order to show the statistics of the resumes through different graphical tools.









Conclusion

Recently Syncify came up with the idea of integrating your resume, social media and job listings into one application. Sounds a bit stupid for Android, but this app really helps to manage your work life in an efficient way. As for improvements I would suggest including recommendation engines, analytics and AI, to name a few.

References:

[1] Android Developers Documentation. Available: https://developer.android.com

[2] Firebase Documentation. Available: https://firebase.google.com/docs

[3] Java Platform Documentation. Available: https://docs.oracle.com

[4] MPAndroidChart Documentation. Available: https://github.com/PhilJay/MPAndroidChart

[5] A. Kumar, "A Study on Mobile Application Development and Deployment," International Journal of Computer Science, 2020.

[6] S. Miller, "Cloud-Based Data Storage for Real-Time Mobile Applications," IEEE Journal, 2019.

[7] R. Sharma, "Resume Analysis and Skill Matching using Data Mining," IJERT, 2021.

[8] J. Nielsen, "User Interface Design Principles for Mobile HCI," ACM Computing Surveys, 2018.

[9] Google Cloud, "Firebase Cloud Messaging and Authentication Overview," 2025.

[10] L. Strauch, "NoSQL Databases: Real-time Data Handling in Distributed Systems," Journal of Systems Software, 2022.