# **EzyAid: Government Welfare Assistance System**

**Snigdha U G** (1005-21-733050), **Divya Sahithi V** (1005-21-733054)

Guide: **Dr V B Narasimha**

**INTRODUCTION**

EzyAid is a platform designed to streamline citizens' access to government welfare programs. It aims to simplify the process of discovering and staying updated on various welfare schemes, thereby contributing to building awareness. By providing timely notifications, easy-to-navigate interfaces, and extensive information, EzyAid ensures that users can efficiently access the schemes they are entitled to. The platform prioritizes accessibility, offering an intuitive experience for users of all backgrounds and abilities, ensuring that everyone has the opportunity to engage with and benefit from available welfare services.

**CHALLENGES IN EXISTING SOLUTIONS**

Current welfare scheme dissemination methods, such as static websites, manual processes face several key challenges. Websites are inefficient, requiring citizens to visit offices, offering generic information without timely updates, suggestions, or accessibility features for differently-abled users. Additionally, there is no platform for state-specific schemes, and filtering options are limited. Performance issues, such as latency, further hinder user experience. Accessibility gaps exist, with no support for screen readers or text-to-speech, and language support is typically confined to Hindi and English. The mobile app lacks cross-platform compatibility. These limitations highlight the need for a more efficient and inclusive solution.

**KEY FEATURES OF PROPOSED SOLUTION**

1. **Scheme Suggestions:** Provides smart filtering options catering to user’s needs.
2. **Real-Time Processing:** Instant notifications on any changes to scheme details or new scheme uploads.
3. **Geo-Location Assistance:** Displays a list of MeeSeva offices segregated by location.
4. **Text-to-Speech:** Offers voice assistance for easy access for the visually-impaired.
5. **Multi-Language Support**: Supports multiple languages for broader accessibility.
6. **Scheme Directory**: Provides a repository of available schemes along with their application URLs.
7. **Cross-Platform App:** Ensures a seamless Flutter-based iOS/Android experience.
8. **Favourites Directory**: Displays shortlisted schemes in a single repository.
9. **Font Size Support**: Allows modification of font size for better readability.
10. **Dashboard**: Displays all analytics derived from the schemes in a centralized dashboard.

**TECHNOLOGY STACK**

1. **Apache Spark:** Processes records from scraped data and stores the processed data into MySQL.
2. **MySQL**: The primary relational database that stores application data and is monitored for changes.
3. **Debezium**: Listens for updates in MySQL tables and captures change data (CDC) events.
4. **Apache Kafka Producer:** Receives notifications from Debezium and publishes changes to Kafka topics.
5. **Apache Kafka Consumer**: Consumes the change events and stores them in redis.
6. **Redis**: Stores and pushes database updates for quick access.
7. **Django:** Fetches records from MySQL, notifies the app of changes, and facilitates backend logic.
8. **Docker**: Ensures management of applications by containerizing services.
9. **Flutter**: Displays the updated data on the mobile app in real time.

**CONCLUSION**

EzyAid provides a comprehensive and inclusive solution to modernize the delivery of government welfare services. With advanced technologies like Apache Spark, Kafka, it ensures effective assistance and accessibility, enabling access to welfare programs for all citizens, particularly underserved populations.

**REFERENCES**

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