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RecycleSmart

A Group Project

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SYNOPSIS

DOMAIN: RecycleSmart

ABSTRACT

Recycle Smart is a mobile app that will let users provide their waste for recycling. The app is designed to make recycling easy and convenient. Users who have recyclable waste in their homes can book an appointment for collecting the waste, which will collected at the user's convenient time by different pickup teams after which it will be recycled. The app also provides users with information about recycling, such as what items can be recycled and what's the benefit of recycling. Recycle Smart is a great way to reduce waste and help the environment. By rewarding users through appreciation certificates for recycling, the app encourages people to recycle more often. This can help to reduce the amount of waste that ends up in landfills, and it can also help to conserve natural resources.

OBJECTIVES

There are many objectives which can be achieved through recycle Smart app, few important objectives to be achieved by recycle smart app are:

- **Increase recycling rates**: By rewarding users for recycling through appreciation certificates and other means, the app can encourage people to recycle more often. This can help to reduce the amount of waste that ends up in landfills, and it can also help to conserve natural resources.
- **Educate people about recycling**: The app will have separate feed section which will provide users with information about recycling, such as what items can be recycled and what are the benefits of recycling. This can help to raise awareness about the importance of recycling and encourage people to recycle more effectively.
- **Make recycling more convenient**: The app can make recycling easier and more convenient for users by allowing users to provide recyclable items from their homes as per their time convenience within a minute.
- **Create a sense of community**: The app can create a sense of community among users who are interested in recycling. By allowing users to interact with other's achievement about how much top users have recycled till now and share their recycling experiences which can

be published in feed section of the app, the app can help to foster a sense of environmental responsibility and make recycling more fun.

These are just a few examples of the objectives that the Recycle Smart app could aim to achieve. The specific objectives that the app sets will evolve as the app development progresses.

EXISTING SYSTEMS

Here are some existing systems that are available and implement similar functioning as recycle smart:

- **Recycle Bank**: This is a popular recycling app that rewards users for recycling. The app allows users to scan barcodes of recyclable items, and then earn points for each item recycled. These points can then be redeemed for discounts on products, services, or even cash.
- **Loop**: This is a subscription-based recycling app that provides users with reusable containers for their groceries. The app tracks how many times each container is reused, and users earn points for each reuse. These points can then be redeemed for discounts on groceries or other rewards.
- **TerraCycle**: This is a company that provides recycling programs for hard-to-recycle items, such as plastic bags, straws, and coffee capsules. The company's app allows users to track their recycling progress and earn points for each item recycled. These points can then be redeemed for discounts on products or donations to environmental charities.
- **Wasteless**: This is an app that helps users reduce food waste. The app allows users to scan barcodes of food items, and then track how much food they waste. The app also provides users with tips on how to reduce food waste.

These are just a few of the existing systems that are available implementing similar ideas.

LIMITATION OF EXISTING SYSTEMS

Cost: Subscription-based apps can be expensive, which can make them inaccessible to some people. The Recycle Smart app will be free to use, which will make it more accessible to everyone.
Limited scope: Many existing recycling apps only focus on hard plastics, such as bottles and containers. This can be a limitation, as these materials are not the only ones that can be recycled.

Paper, e-waste, and wet waste are also important materials that can be recycled, and they can have a significant environmental impact if they end up in landfills.

Many existing recycling apps only focus on food waste, such as leftovers and spoiled food. This can be a limitation, as there are other materials that can be recycled or composted, such as paper, plastic, and electronics. The Recycle Smart app can address this limitation by focusing on a wider range of materials, which can help users to reduce their overall waste.

Short-term rewards: Many existing recycling apps reward users with points or other rewards that expire after a certain period of time. This can be a limitation, as it can demotivate users to continue recycling once their rewards have expired. The Recycle Smart app can address this limitation by providing users with lifetime certificates and recognition, which will be a more lasting and meaningful reward.

Lack of recognition: Some existing recycling apps do not provide users with any recognition for their recycling efforts. This can be a limitation, as it can make users feel like their efforts are not being appreciated. The Recycle Smart app can address this limitation by providing users with lifetime certificates and recognition, which will show users that their efforts are valued.

FUNCTIONALITIES

User registration and profile: Users can create an account and set up a profile. The profile will include information about the user's recycling habits, such as what items they recycle and how often they recycle.

Recyclable items: The app will have a list of recyclable items. Users can search for items by name or category.

Schedule a pickup: Users can schedule a pickup for their recyclable items. They can select a date and time for the pickup, and they can also specify the location of the pickup.

Track recycling progress: Users can track their recycling progress. They can see how much they have recycled, and they can also see their recycling score.

Share recycling experiences: Users can share their recycling experiences with other users. They can post photos and videos of their recycling efforts, and they can also write about their recycling experiences.

Community forum: Users can interact with other users in a community forum. They can ask questions, share tips, and discuss recycling topics.

Rewards program: Users can earn rewards for recycling. The rewards can be appreciation certificates, discounts, or other incentives.

TOOLS PROPOSED

Flutter is an open-source mobile UI framework created by Google. It is used to develop native mobile apps for Android and iOS from a single codebase. Flutter is known for its high performance, beautiful visuals, and ease of use.

Frontend

Flutter's frontend framework is based on the Dart programming language. Dart is a compiled language that is fast, expressive, and type-safe. Flutter's frontend framework provides a rich set of widgets that can be used to create beautiful and interactive user interfaces.

Backend

Flutter can be used with a variety of backend technologies. Some popular options include:

Firebase is a BaaS (backend as a service) platform that provides a number of features for Flutter apps, including user authentication, database storage, and push notifications.

Node.js is a popular JavaScript runtime environment that can be used to create web servers and APIs.

Django is a Python web framework that can be used to create web servers and APIs.

Database

Flutter can be used with a variety of databases. Some popular options include:

Firebase Realtime Database is a NoSQL database that is well-suited for real-time applications.

MongoDB is a NoSQL database that is flexible and scalable.

MySQL is a relational database that is widely used and supported.

CONCLUSION

In conclusion, the Recycle Smart app aims to revolutionize recycling by making it easy, convenient for users. The app's objectives include increasing recycling rates, educating people about recycling, making recycling more convenient, and creating a sense of community. By providing users with information about recycling, allowing them to schedule pickups for recyclable items, and rewarding their efforts with appreciation certificates, the app encourages users to recycle more often and effectively.

While there are existing recycling apps in the market, the Recycle Smart app sets itself apart by offering a free platform accessible to all users. It also addresses the limitations of existing systems by focusing on a wider range of recyclable materials, providing long-lasting rewards, and giving users recognition for their efforts.

Overall, the Recycle Smart app has the potential to make a significant impact on recycling behaviors, reduce waste sent to landfills, and foster a sense of environmental responsibility among users. By combining user-friendly features, educational resources, and applauding users through appreciation certificates, the app can contribute to a more sustainable future for upcoming generations while building a vibrant recycling community.

Thank You!