# Problem statement

Littering in South Africa has been an ongoing issue that pollutes the environment. One of the causes of littering is the lack of effort put in waste management from households. Additionally, households tend to forget to put out their waste for pick up on designated days and may illegally dump their waste in illegal dump sites.

# Proposed solution

LitterFree is a waste management mobile app that helps to encourage waste management. It allows households to create a group which includes their family members. In this group, they can set up weekly tasks or challenges that correlate to waste management. To gamify the app, family members can earn points and be ranked on a leaderboard. To keep the family members interested in completing the tasks, they can set rewards that can be redeemed at the end of the week.

# Functional requirements

Users can:

* Create a group
* Invite family members to join group
* Create waste management tasks
* Set the pickup days for waste collection
* Set the rewards for accomplishing weekly tasks

# Non-functional requirements

The mobile app will make use of …

# Feasibility study

## Market feasibility

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This mobile application is best suited for individuals between the age of 13 and up.

## Technical feasibility

The proposed solution will make user of Flutter for the development of the frontend, MySQL and SQL for the database, and ASP.NET Core Web API to allow the frontend to make requests to the backend. The solution will be an android application so it can only be accessible through Android only.

## Financial feasibility

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## Schedule feasibility

The project scope:

* Home page
* Tasks page
* Rewards page
* Leaderboard page
* Invite page

Project estimated effort:

* Write documentation detailing problem, solution, use cases, requirements (3 days)
* Design Entity Relational Database Diagram (… days)
* Develop Backend with test data (… days)
* Develop ASP.NET Core web API (… days)
* Develop frontend (… days)

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| Task | Deliverable deadline |
| Write documentation | 31 October – 2 November |
| Design ERD Diagram |  |
| Develop Backend |  |
| Develop API |  |
| Develop frontend |  |