Project context:

Proper waste management remains a significant challenge in universities, where large amounts of waste are generated daily. At Pangasinan State University (PSU), improper waste disposal leads to environmental concerns, including pollution and inefficient recycling. Traditional waste bins do not provide real-time monitoring or guidance for users, resulting in overflowing trash bins and incorrect waste segregation.

To address these issues, the PSU Smart TrashBin project leverages Artificial Intelligence (AI) and Internet of Things (IoT) to enhance campus waste management. This system consists of a mobile application and web-based platform that integrates AI-powered waste classification, real-time monitoring, and gamification to encourage proper disposal habits.

Objectives of the project:

1. To develop a mobile application that allows users to take pictures of waste and receive AI-based recommendations on proper disposal
2. To promote environmental awareness and sustainability by educating users on proper waste management through in-app tips, notifications, and community engagement features.
3. To evaluate the effectiveness of the system in improving waste segregation, reducing campus litter, and enhancing the overall waste management process at PSU.