School of Computing  
CA326 Year 3 Project Proposal Form

**SECTION A**

Project Title \_\_PotPal - a mobile app that helps you take care of your plants\_\_\_

Student 1 Name \_Liucija Paulina Adomaviciute\_ ID Number \_21790411\_

Student 2 Name \_Eryk Zygmunt Styczynski\_\_\_\_ ID Number 21753851

Student 3 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID Number \_\_\_\_\_\_\_\_\_\_\_

*(A third team member is exceptional and requires detailed justification.)*

Staff Member Consulted \_Mark Roantree\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Description (1-2 pages):

# Description

This project is an Android application. It will be called PotPal. The primary objective of this application is to streamline, simplify and enhance the process of caring for indoor plants. With this app, users can effortlessly add their plants to the tracker, and then the app will allow them to create their plant profile. The app has three main features.

1. **Plant Identification**

First and foremost, our app will be able to identify the group the plant belongs to from a simple user-submitted photo. This will be achieved using the PlantNet API. With this feature, users can simply snap a photo of their plant using their Android smartphone, and the app will analyze the image and cross-reference it with the extensive plant database provided by the PlantNet API.

1. **Personal Care Schedules**

Once the plant has been identified, the app will suggest watering and care schedules. The app will ask users for information about the conditions the plant is in (air humidity, pot size, amount of light) and based on those environmental factors will create the optimal watering schedule. In case the user is not happy with the suggested plan, they will be able to modify it freely. Once users have created their 'Garden,' they can record their watering days for each plant.

1. **Plant Health Companion**

The app's intelligent system monitors their care routine and provides real-time feedback. It will alert users if it detects over or under-watering, and it can automatically adjust the watering schedule as required. Notifications will be used to remind the users about the watering days. The application will also provide information to the users about optimal conditions for their plants. Furthermore, if users encounter any visual symptoms or health issues displayed by their plants, the app provides resources to help them diagnose and address potential problems.

# Division of Work

**Liucija:** backend development, integrating the PlantNet API, monitoring system, and database management

**Eryk:** frontend development - user interfaces, photo integration, and notifications

# Programming Language(s)

* Java

# Programming Tool(s)

* PlantNet API for plant identification
* Android Studio for application development
* SQLite for database management

# Learning Challenges

* Creation of a mobile application’s graphical user interface.
* Configuring the application’s network capabilities to introduce the ability to log in and save user data.
* Integrating a third-party API to identify and group plants based on their physical characteristics.
* Creating a responsive and easy-to-use mobile application with real-time monitoring and notifications.

# Hardware/Software Platform

The development will take place on standard Windows or Linux machines, with Android emulators for testing. The final app will be compatible with Android devices.

# Special Hardware/Software Requirements

No special hardware/software requirements.