



American International University-Bangladesh (AIUB)

## **GREEN HORIZON**

### **OBJECT ORIENTED ANALYSIS AND DESIGN [J]**

PRIOM, ASHESH DEB(20-43698-2)  
MOHAMMAD SHAFIN(20-43736-2)  
SIDDIQUE, MD. SAZZAD(20-43747-2)

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Faculty of Science and Technology (FST)

## Abstract

One of the recognized purposes behind tree plantation is forestry. forests are quickly diminishing from the surface of the earth since people are cutting trees for business purposes. Despite the way that forests develop normally, there is a need to regrow them at a more noteworthy rate than the rate at which they are destroyed. Aside from improving the bio-diversity, trees additionally add to the natural beauty of a spot.

Trees planted by the streets and in the parks add to the scenic beauty of the spot. A tree will be there for ages profiting every one in its specific manner. If you plant a tree today, at that point, your coming ages will be profited by it—one of the best future investment to make for your youngsters.

A few NGOs (Non-Government Organizations) and individuals are volunteering in for tree plantation today. It is, after all, the fastest method to make the earth greener. Tree plantation is a signal that will make the planet a great spot to live for the coming ages. We should not exclusively be occupied with tree plantation yet also energize others to plant trees at whatever point and any place the time and resources allow them.

Governments should likewise approach to help tree plantation. Non-government offices and local groups may feel monetary deficiencies, and here the administration could end up being of help. Furthermore, the administration has a pool of assets and funds to complete enormous scope plantation activities with NGOs and other invested parties.

We have created an application which will give guideline to the people who wanted to plant trees and make maximum profit from it. As Most people don't know how to plant trees and how to get maximum profit from it so it helped a lot. By this they can plant tress and they don't need to be professionals. They can be just normal people. They don't even need any knowledge for planting trees. They will get all the information needed of how to plant trees and how can people get maximum benefit from it.

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# Chapter 1

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## Introduction

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The world is civilizing day-by-day. But as it is civilizing , people are destroying the environment in search of resources for themselves. For that reason global warming is increasing day by day. Many natural calamities are happening because of this. If this continues, one day the world won't be a place for living lives. But people can save this if they try. If anyone has a simple plot of field or some place or just will to save the environment around them they can plant trees and not only just to save the environment but also if they take good care of the tree it can greatly benefitted them. An application can help them for getting the most profit out of their land by managing and giving guideline to them. It can help the environment as well as it will give them profit so that they can remain motivated for this.

### 1.1 Problem statement

People are destroying the nature for resources day by day. For that reason deforestation is happening and people are constructing buildings in any place they find and for that global warming is happening. The temperature of the world is increasing day by day. Natural calamities are happening frequently. The situation of the earth is changing day by day. If this continues, one day earth won't be suitable for living. But it can be changed if everyone focus on their mindset of planting trees and save the environment and anybody can do that anywhere. People don't need a huge amount of land for planting trees. They can plant trees in their household, side of the road or on some small plots. But it can be more than just saving the environment. People can earn a huge amount of profit by planting trees and they don't need to be professionals for getting profit from the trees they plant. They can do it with any knowledge they have if they have the right resource.

## **1.2 Objective (Proposed Solution)**

**If anyone has a plot of land or just willing to plant some trees in their household, an application will give them the proper guideline about how they can get the maximum benefit out of it. The application will have some features which will help them get the maximum production from their planted trees.**

- It will help them for finding the best plant for their plot or environment they are in.**
- It will help them to manage the tree they have plant by maintaining their budget.**
- It will give them the right information about what fertilizer they need.**
- It will give them notification about the right time for giving their water and fertilizer.**
- It will have forum which will have professionals. So, they can get any help they need.**
- It will have information about all the diseases a plant can have and it will give the proper solution for those diseases.**
- It will have doctors which will help them for solving the diseases of their plant.**
- It will calculate all the costs for planting the trees.**
- It will help them for finding the best fertilizer within their budget.**
- It will have ranking system about how many trees they have planted and they will get trophies and will unlock achievement for that.**

**So, this application will help the environment and the people planting the trees with maximum production benefit.**

## **Chapter 2**

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### **Literature review**

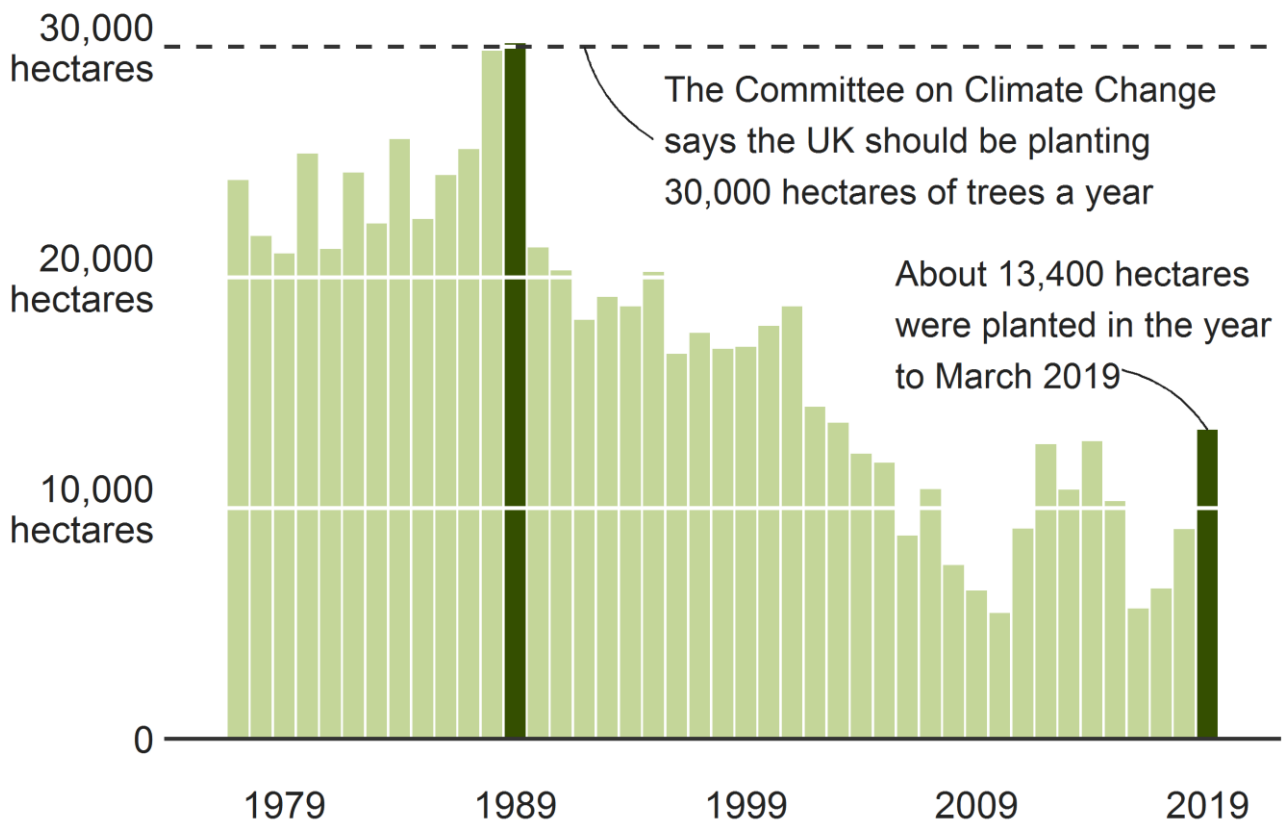
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#### **2.1 Introduction**

**Existing work/ Related work/ or any other terminology/definition**

# Tree planting rates in the UK

Experts want tree planting back at levels last seen in 1989

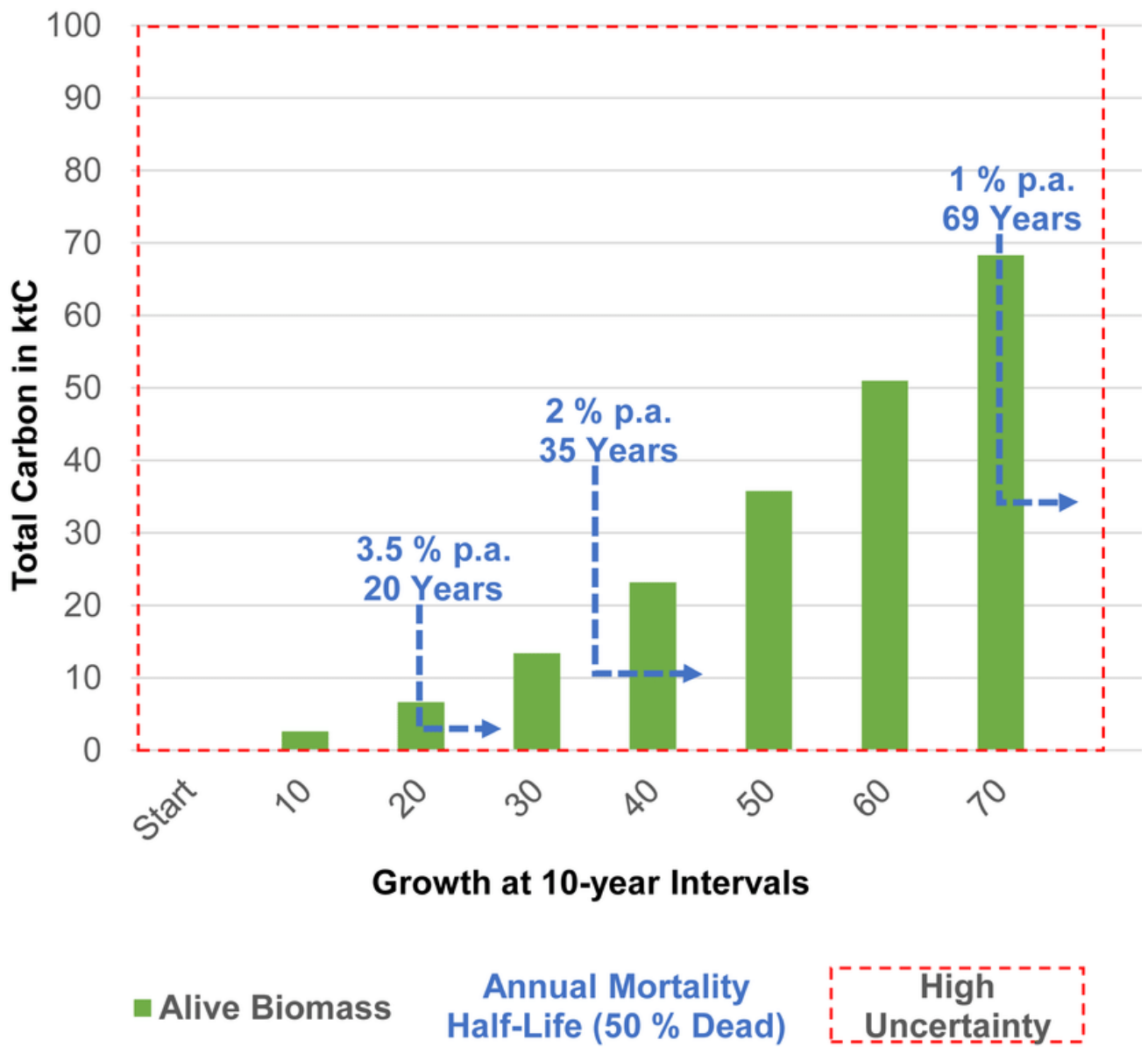


Note: A standard football pitch is about two thirds of a hectare - 1 pitch = 0.64 hectares

Source: Forest Research

BBC





# Analysis of System

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### 3.1 Introduction

It is a process of collecting and interpreting facts, identifying the problems, and decomposition of a system into its components.

System analysis is conducted for the purpose of studying a system or its parts in order to identify its objectives. It is a problem solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose.

### 3.2 Stakeholders (User)

This application is for all kinds of people who has a bit of land and want to plant something but don't know how to progress and what to do for getting the most profit out of it. It will give them a guideline about how to plant efficiently and get the most profit out of it.

### 3.3 Functional Requirements

**A Functional Requirement (FR) is a description of the service that the software must offer. It describes a software system or its component. A function is nothing but inputs to the software system, its behavior, and outputs. It can be a calculation, data manipulation, business process, user interaction, or any other specific functionality which defines what function a system is likely to perform.**

### 3.3 Non Functional Requirement

**Nonfunctional Requirements define system attributes such as security, reliability, performance, maintainability, scalability, and usability. They serve as constraints or restrictions on the design of the system across the different backlogs. Also known as system qualities, nonfunctional requirements are just as critical as functional Epics, Capabilities, Features, and Stories. They ensure the usability and effectiveness of the entire system. Failing to meet any one of them can result in systems that fail to satisfy internal business, user, or market needs, or that do not fulfill mandatory requirements imposed by regulatory or standards agencies. In some cases, non-compliance can cause significant legal issues (privacy, security, safety, to name a few). NFRs are persistent qualities**

and constraints that, unlike functional requirements, are typically revisited as part of the Definition of Done (DoD) for each Iteration, Program Increment (PI), or release. NFRs influence all backlogs: Team, Program, Solution, and Portfolio. Proper definition and implementation of NFRs is critical. Over-specify them, and the solution may be too costly to be viable; under-specify or underachieve them, and the system will be inadequate for its intended use. An adaptive and incremental approach to exploring, defining, and implementing NFRs is a vital skill for Agile teams.

## Chapter 4

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# Design

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### 1.1 Introduction

Some people say that a picture is worth a thousand words. That's why visualizing a process, especially during the development phase, is crucial for team communication and collaboration. The software development industry in the past has used dozens of ways to model and visualize development, but since 1997, UML or Unified Modeling Language has been the industry standard for software modeling. Read on to learn more about what UML is, the types of UML diagrams, and how to use a UML diagram to benefit your collaboration.

UML diagrams can be used as a way to visualize a project before it takes place or as documentation for a project afterward. But the overall goal of UML diagrams is to allow teams to visualize how a project is or will be working, and they can be used in any field, not just software engineering. The diagrams will allow teams to visualize together how a system or process will work or did work. It can provide new ideas for how the team needs to collaborate to achieve the goal of the workflow process.

A UML diagram won't help a team visualize a project and collaborate if a team member is unable to see the diagram and any updates or changes in real-time. The Bluescape Enterprise is a virtual whiteboard that can be displayed on any device. Once a UML diagram is added to the whiteboard, every team member can see it—and any changes—anywhere at any time. With our virtual whiteboard, teams will be able to fully utilize UML diagrams for collaboration.

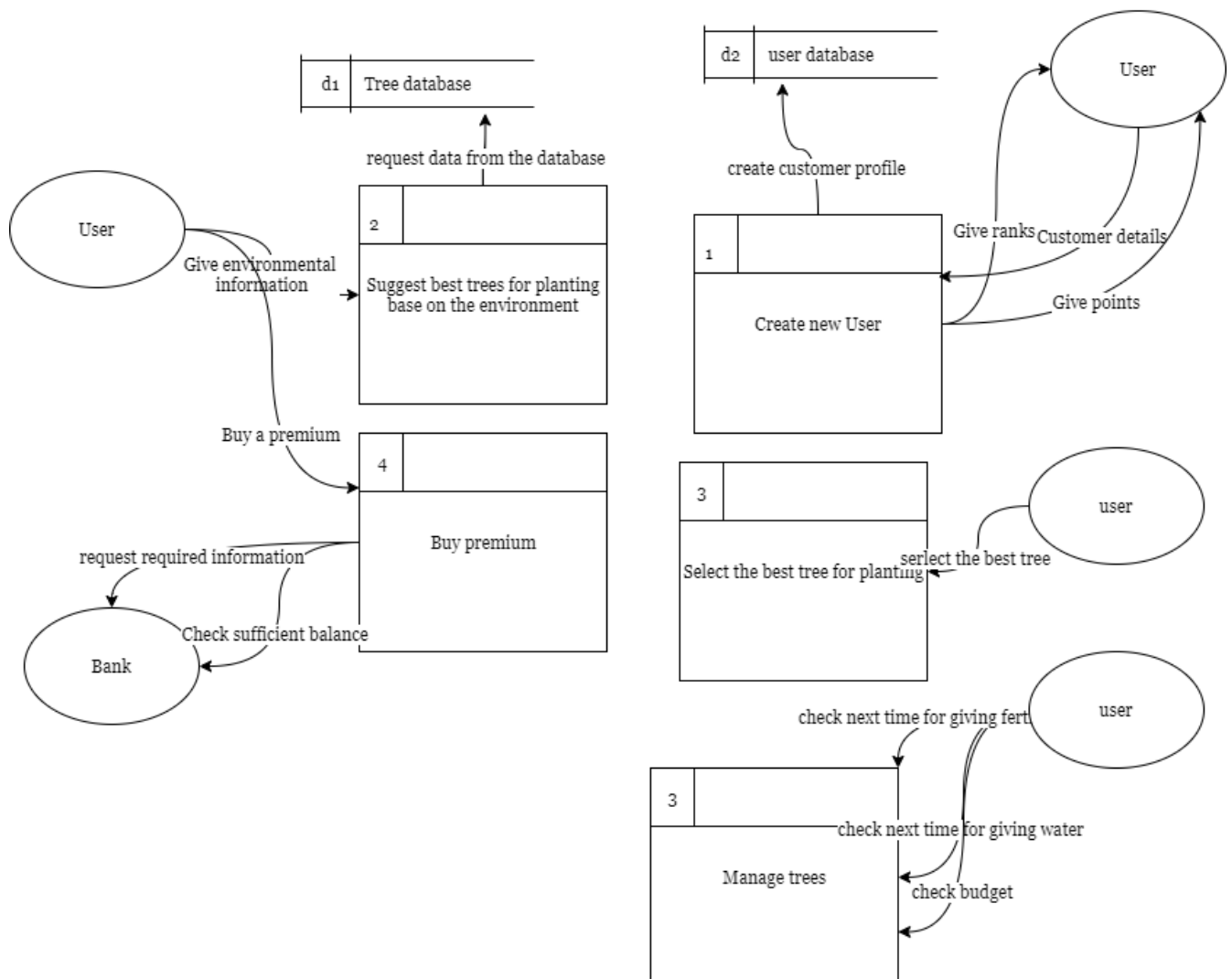
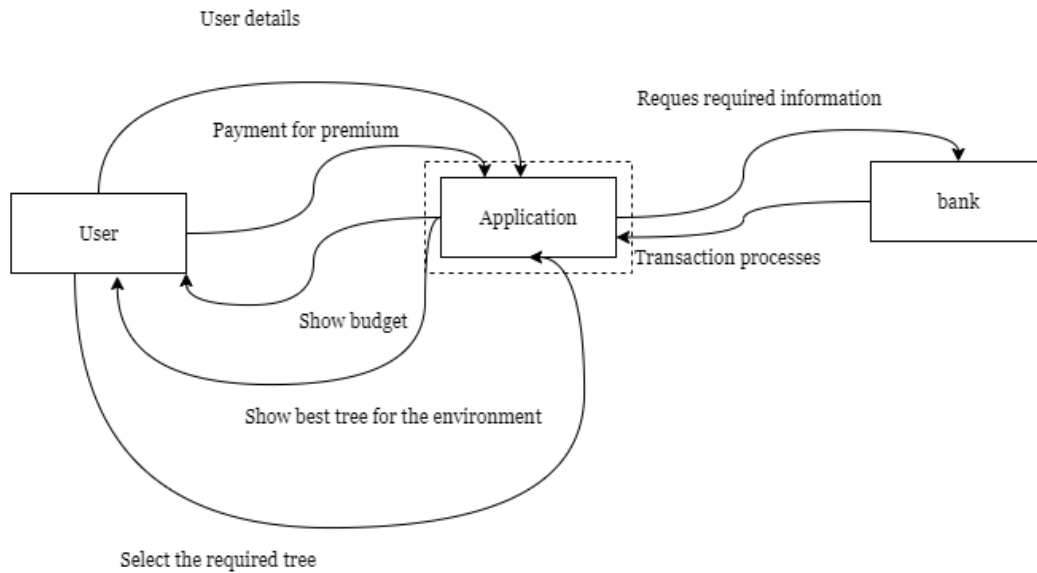
## 1.2 Use Case Diagram

# USE CASE DIAGRAM



### **1.3 Data flow diagram**

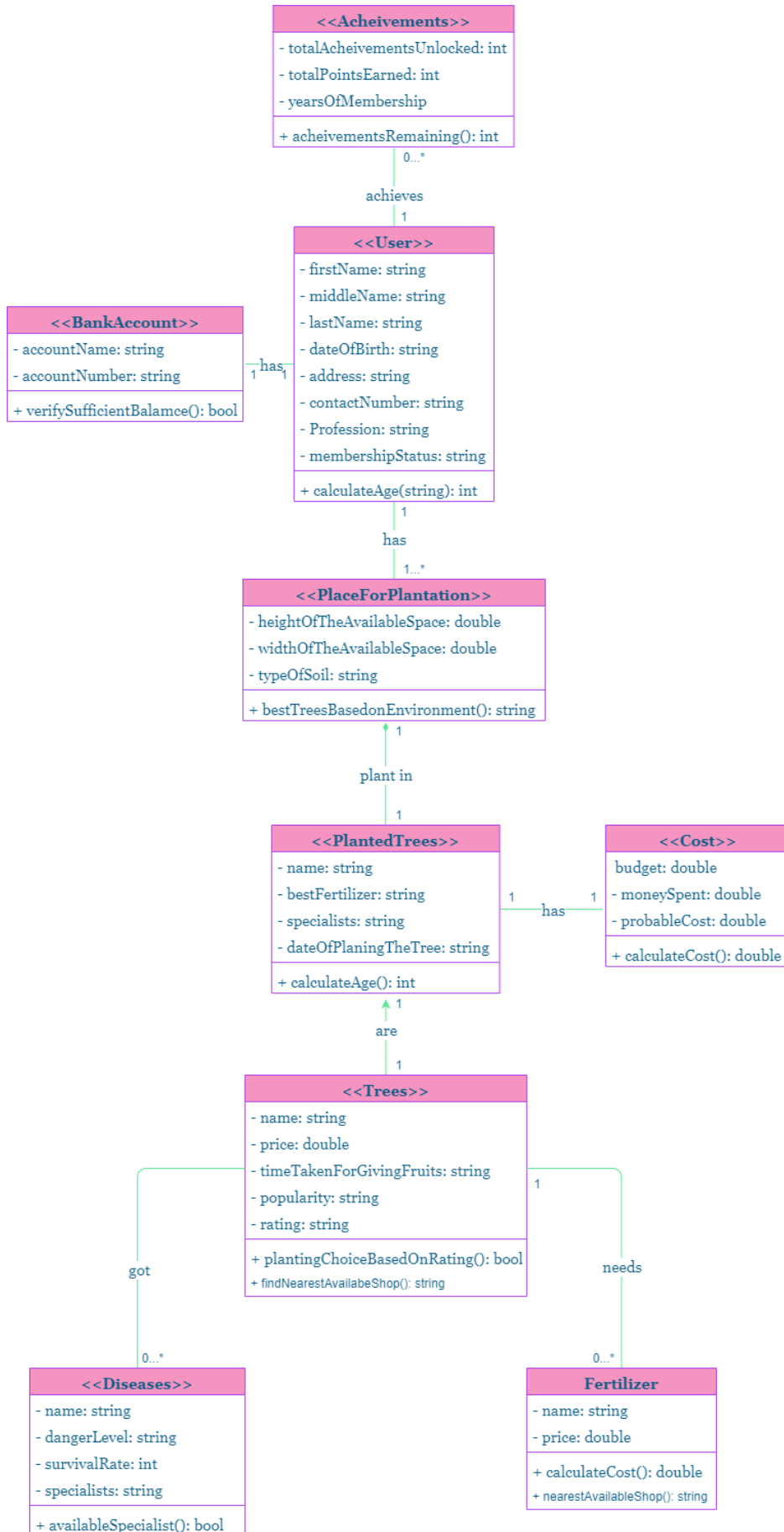
# DATA FLOW DIAGRAM





## 1.4 Class diagram

# CLASS DIAGRAM



#### **1.4.1 CRC Card**

# CRC CARD

User	
Knows name Knows date of birth Knows address Knows contact number Knows profession Knows mebership status Collect required user information	Achievements Bank account PlaceForPlantaion

Bank account	
Knows account name kKnows account number Collect required account information Verify if the user has suffiecient money for purchase	User

Acheivements	
Record all the acheivements Record all the remaining acheivements Count points Count year of membership	User

Place for plantation	
Knows height of the available space Knows weight of the available space Knows type of soil Can find best trees based on the environment	User Planted Tress

Planted Trees	
Knows name Knows best fertilizer knows specialists Knows date of planting Can calculate age	PlaceForPLantation Tree

Cost	
Knows budget Knows money spent Knows probable cost Can calculate cost	PlantedTrees

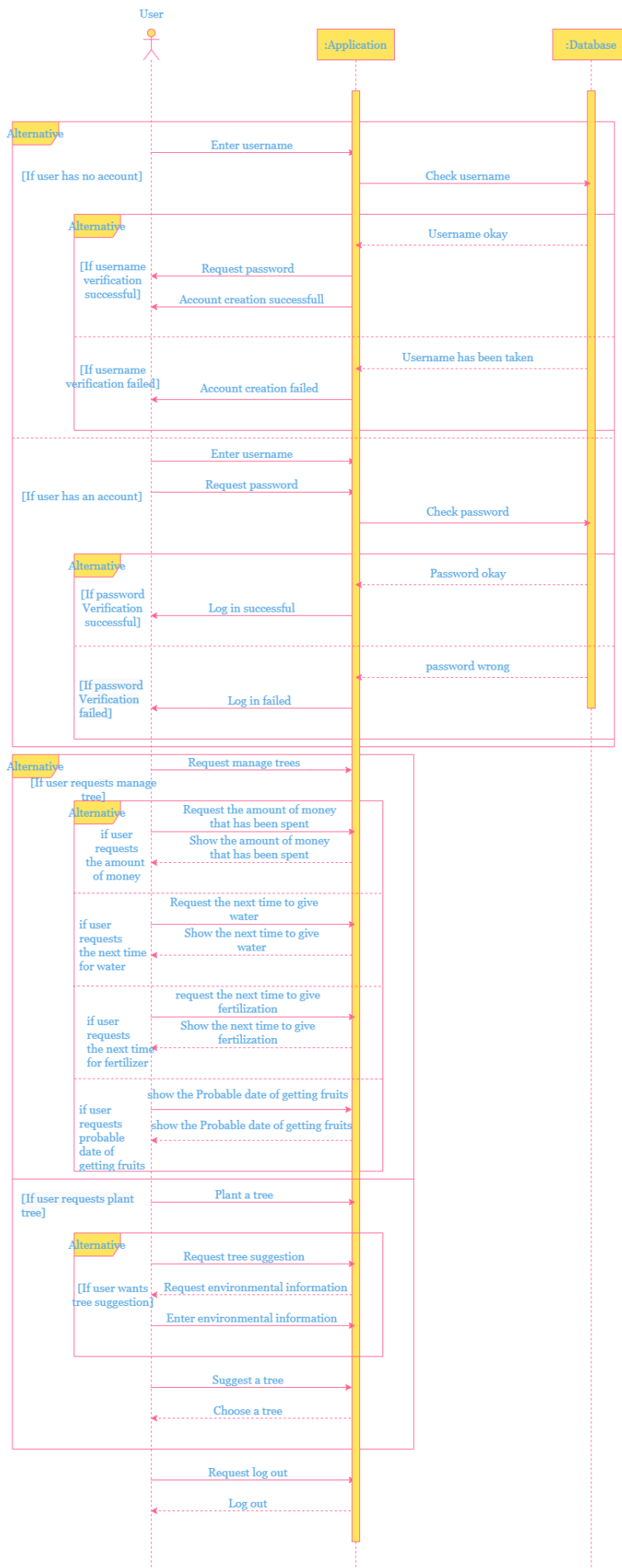
Tree	
Knows name Knows price Knows time taken for giving fruits Knows popularity Knows rating Can find nearest available shop Can give a plantation suggestion based on rating	Diseases Fertilizer cost

Fertilizer	
Knows name Knows price Can calculate cost Find nearest available shop	Tree

Diseases	
Knows name Knows danger level Knows survival rate Knows specialists Can find the available specialist	Tree

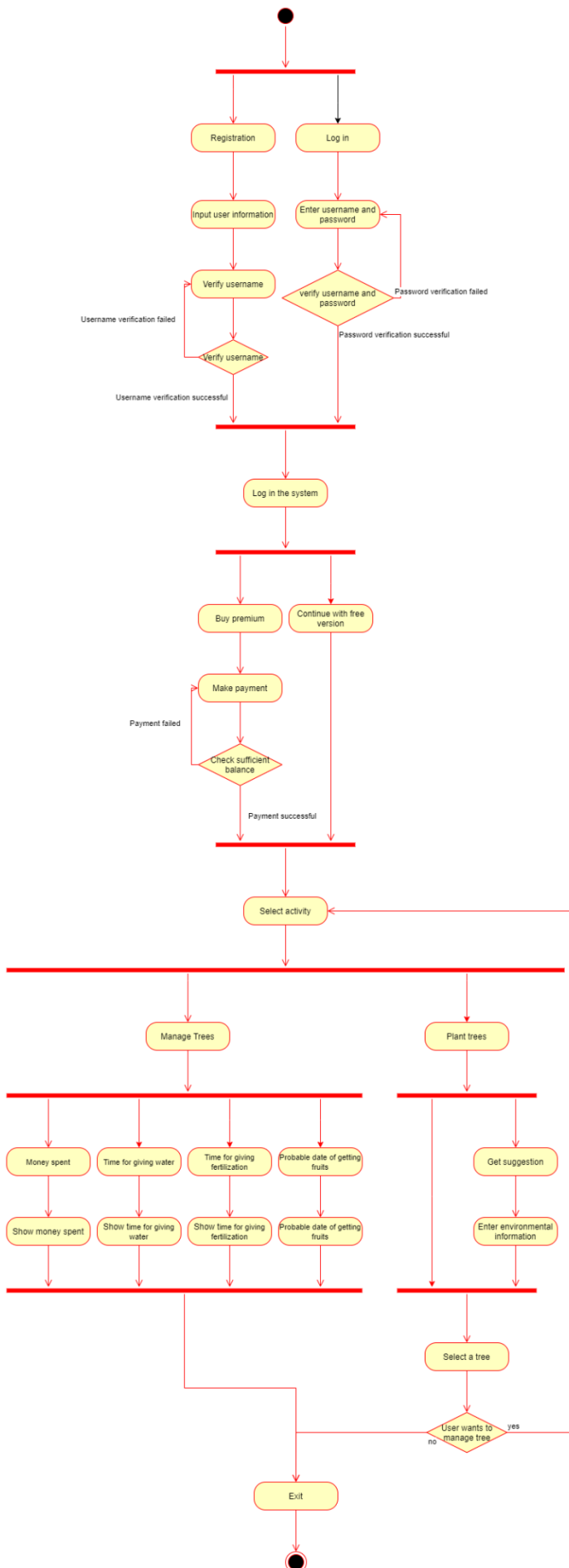
## 1.5 Sequence diagram

# SEQUENCE DIAGRAM



## 1.6 Activity diagram

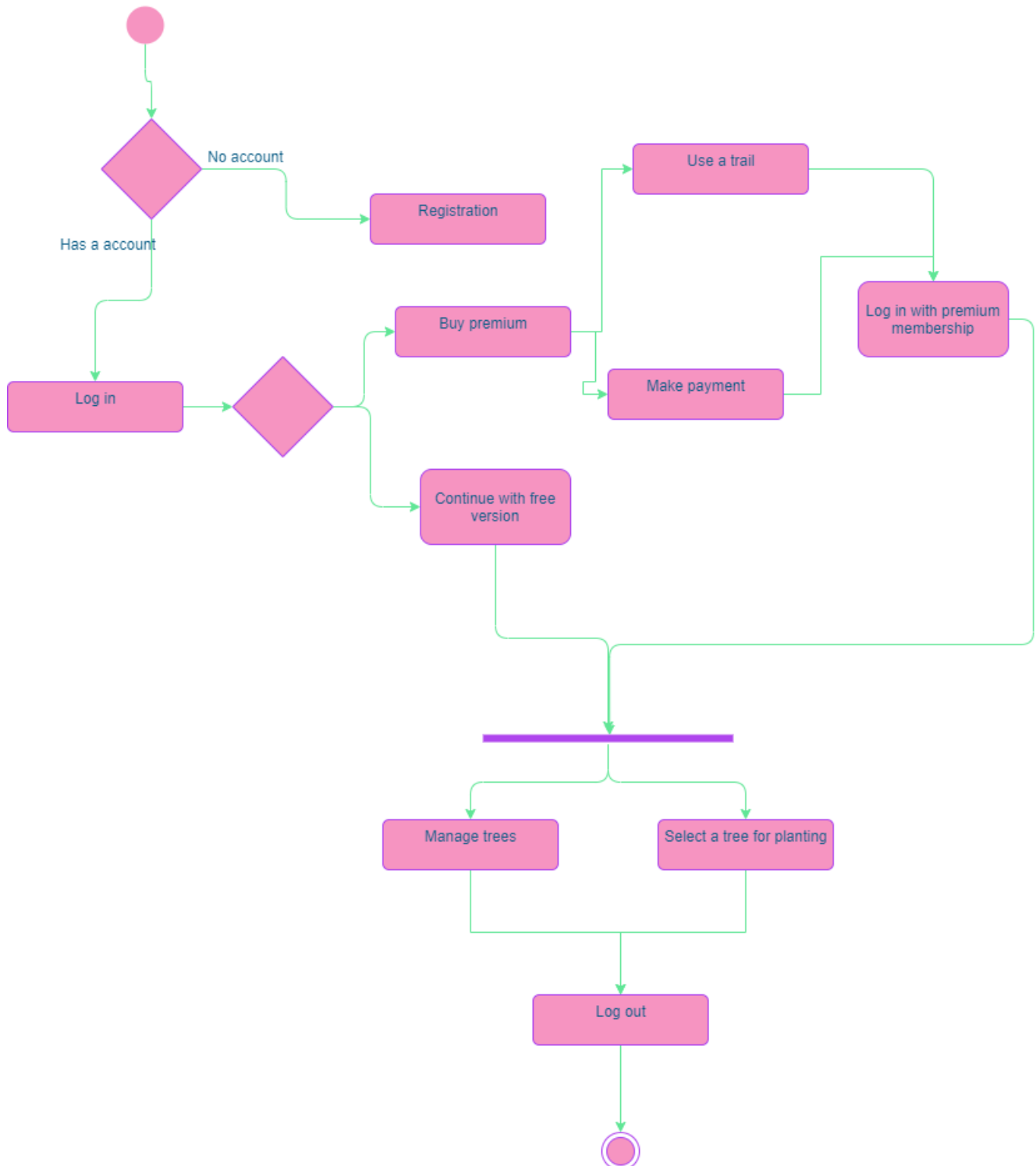
## ACTIVITY DIAGRAM





## 1.7 State chart diagram

### STATE DIAGRAM



# Chapter 5

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## Conclusion

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Planting trees is the ideal approach to support nature. It additionally helps other living species, including people, in many ways. Trees give us oxygen, food, shelter, and many more. They are natural air filters and noise safeguards. Areas having a thick estate of trees, are seen to be less loud and generally having cleaner air than the zones without trees.

UML class charts are valuable when demonstrating business information. By precisely demonstrating qualities and relationship of class elements, we can without much of a stretch guide these class chart details to substance beans with CMP. Class credits guide to extract access strategies for constant fields, and affiliation jobs guide to digest access techniques for relationship fields. Travers ability decides if relationship access strategies show up in both related element beans or only one. Moreover, variety documentation decides the right sort for relationship fields, life cycle issues, and falling erase qualities.

## Future work

When trees are planted, on its own, the biodiversity of that zone is improved. It advances the development of species and prevents their depletion or extinction. The tree likewise gives products of the soil. Wood is utilized in the villages who use fire.

Today, more individuals understand the advantage of tree plantation. Individuals are taking up tree plantation as their hobby. People are planting trees in their neighborhood, and reassuring others to do as such. Younger students are likewise planting trees with the assistance of teachers and staff.

The air at a spot with a great number of trees is significantly healthy and clean. Planting trees likewise helps birds, squirrels, and different species, giving them food and living arrangement. The least we can do is plant a large number of trees to provide nature what we have taken from it. We can't reimburse in full, yet at the same time, at any rate, be appreciative. We will keep working on this application and by adding features we want to make the world more beautiful.

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