



# APPLICATION USER MANUAL

## GREEN SPACE MANAGEMENT

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Conteúdo

1. Introduction..... 2

2. System Overview ..... 3

3. System Requirements ..... 5

4. Features..... 6

5. Troubleshooting ..... 15

6. FAQs ..... 18

7.GLOSSARY ..... 19

# **1. Introduction**

Welcome to the User Manual for Futuros Desemplegados' Green Space Management Application! This manual is designed to provide guidance on using our application effectively, serving as your go-to resource for understanding the functionality and features of our application.

The objective of this manual is to assist users in understanding how to navigate and utilize the features of the application by providing detailed instructions and explanations.

This app is a software solution designed to streamline the management of green spaces, including personnel, vehicles, and facilities. It is a Java-based application accessible through desktop devices only.

This manual is addressed to five primary user groups:

- **Human Resources Managers (HRMs):** responsible for managing personnel, assigning tasks, and overseeing the skills and qualifications of collaborators within green spaces.
- **Vehicle and Equipment Fleet Managers (VFMs):** responsible for managing vehicles, equipment, and other facilities necessary for the maintenance and operation of green spaces.
- **Collaborators:** people who are employees in the organization and carry out design, construction and/or maintenance tasks for green areas, depending on their skills.
- **Green Spaces Managers (GSMs):** responsible for managing the green spaces in charge of the organization.
- **Software Quality Assessment Team Manager (QAM):** responsible for managing the Software Quality Assessment Team and its process.

Whether you are an experienced user or new to the application, this manual will provide step-by-step instructions and best practices to help you make the most out of our application.

## 2. System Overview

The primary objective of this app is to facilitate the management of resources within green spaces, ensuring smooth operations and optimal utilization of human and material resources. Key goals include:

- **Centralizing Information:** Provide a centralized platform for storing and accessing information related to collaborators, teams, their skills, assigned jobs, and vehicles. GSMs also get access to Agendas and To-Do Lists, to manage tasks and assure the proper functioning of the parks.

- **Streamlining Processes:** Automate processes such as team proposal generation, scheduling vehicle maintenance/check-ups to enhance efficiency and reduce manual effort.

## Structure of the Application

The application is organized into five main modules: **Human Resources Management (for HRMs)**, **Vehicle and Fleet Management (for VFMs)**, **Green Space Management (for GSMs)**, **Quality Assessment Management (for QAMs)**, and **Collaborator Utilities**. Each module caters to specific functionalities and dependencies:

**HRM Module:** This module focuses on managing human resources involved in green space projects. It includes features such as registering skills and jobs, assigning skills to collaborators, and generating team proposals.

**VFM Module:** The VFM module is dedicated to managing facilities and equipment associated with green spaces. It allows users to register vehicles, schedule, and record vehicle check-ups, and maintain a list of vehicles needing attention.

**GSM Module:** The Green Space Management module is designed for managing green spaces. It includes functionalities for registering green spaces, managing To-Do lists and Agendas, assigning teams and vehicles to tasks, and handling emergency plans with evacuation routes and assembly points.

**QAM Module:** The Quality Assessment Management module is focused on evaluating and ensuring the quality of software used in green space management. It includes features for running tests, analyzing algorithm performance, and assessing the complexity and efficiency of developed procedures.

**Collaborator Utilities:** This module provides tools for collaborators to manage their tasks and assignments. It includes functionalities for consulting assigned tasks and recording task completion.

## Main Features

- Registering and managing collaborator information, including personal details, skills, and assigned jobs.
- Generating team proposals automatically based on specified criteria, saving them if they are accepted.
- Assigning skills to collaborators to ensure appropriate staffing for projects.
- Registering vehicles and maintaining details such as brand, model, and maintenance frequency.
- Scheduling and recording vehicle check-ups to ensure proper maintenance and safety compliance.

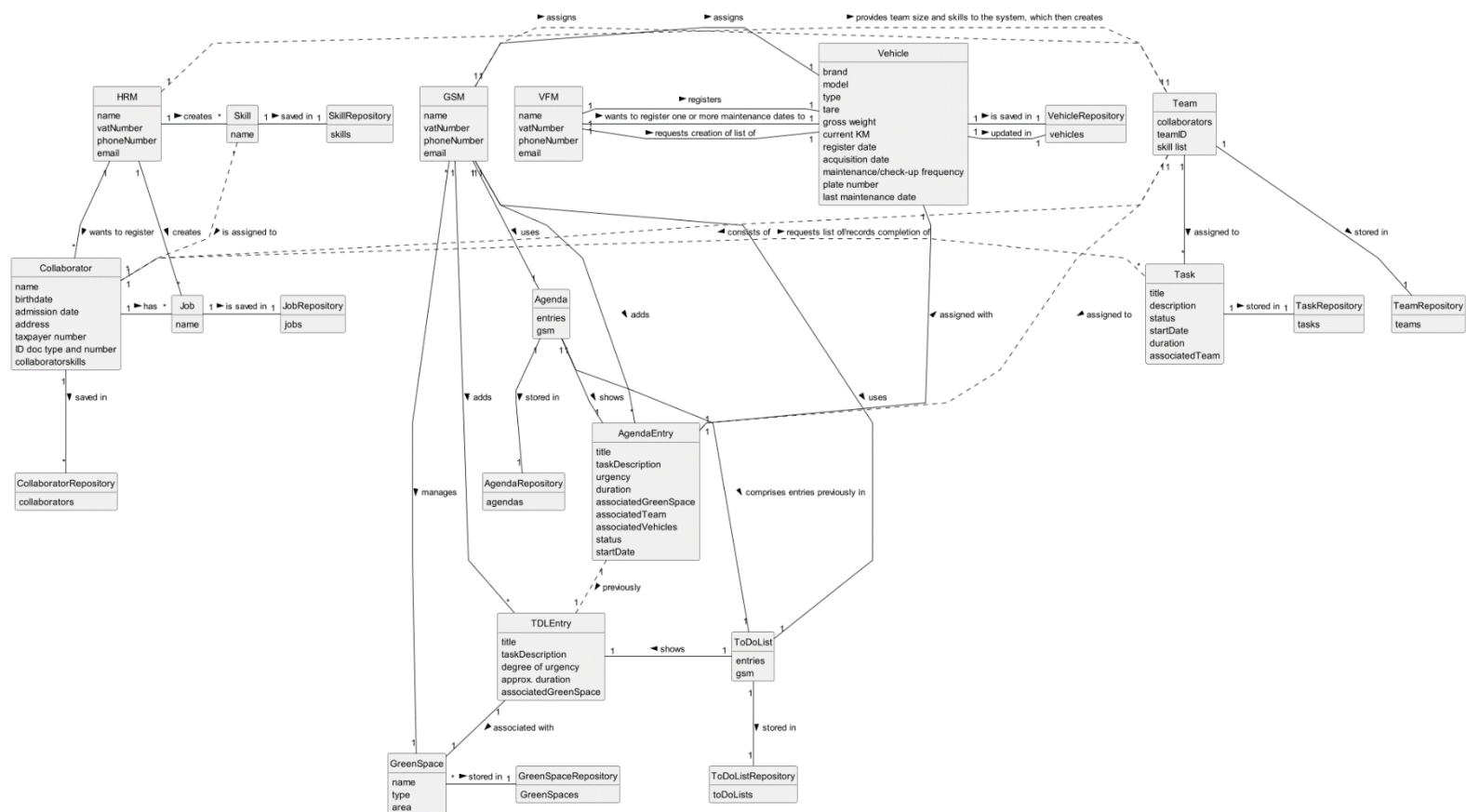


Figure 1. Project Domain Model

The app is compatible with any OS that can run the Java language. Internet connection is required for initial setup and updates.

It does not require any additional plugins for basic functionality. However, depending on your organization's needs, integration with other software systems may be necessary. Please consult with your IT department for specific plugin requirements.

## Installation Procedures:

1. Download our application's repository from GitHub.
2. Run the .jar file within the downloaded repository, by using a terminal window.
3. Read the *Readme.md* file, found in the *global-artifacts* folder of the app's repository, for more information.

## Technical Specifications:

**Database:** The app utilizes a relational database management system (RDBMS) to store and manage user data.

**Programming Languages and Frameworks:** The app was developed using Java, Python and Maven.

**Security:** The app implements industry-standard security practices to safeguard user data.

**Scalability:** The architecture of the app's GUI is simple and designed to be scalable, allowing it to accommodate growing user bases and expanding functionality with ease.

**Support:** For technical support and assistance, please contact our support team at [g073@isep.ipp.pt](mailto:g073@isep.ipp.pt).

## 4. Features

### Skill Registration:

*US Number: 1*

*Title: Create a Skill*

*User/Role: HRM*

*Instructions:*

1. Login as an HRM.

2. Click on "Create Skill".
3. Enter the skill name.
4. Click on "Submit" to save the skill.

**Job Registration:**

*US Number: 2*

*Title: Create a Job*

*User/Role: HRM*

*Instructions:*

1. Login as an HRM
2. Click on "Create Job".
3. Enter the job name.
4. Click on the "Submit" button to save the job.

**Collaborator Registration:**

*US Number: 3*

*Title: Register a Collaborator*

*User/Role: HRM*

*Instructions:*

1. Login as an HRM



2. Ensure you have at least one job registered within the system.
3. Click on "Register Collaborator".
4. Enter the required data (name, birthdate, admission date, address, contact info (mobile and email), ID doc type and a respective number).
5. Click on the "Submit" button to save the collaborator.

**Skill Assignment:**

*US Number: 4*

*Title: Assign a Skill*

*User/Role: HRM*

*Instructions:*

1. Login as an HRM
2. Ensure you have at least one Collaborator and one Skill registered within the system.
3. Click on "Assign Skill to Collaborator".
4. Select one or more skills from the list.
5. Select a Collaborator from the list.
6. Click on the "Save" button to assign the skill(s).

**Generating Team Proposal:**

*US Number: 5*

*Title: Generating a Team*

*User/Role: HRM*

*Instructions:*

1. Login as an HRM

2. Ensure you have at least one collaborator registered within the system, with a skill assigned to them.
3. Click on "Generate Team".
4. Specify the maximum and minimum team size and required skills.
5. Click on the "Submit" button to automatically generate a team proposal.
6. Click "Yes" if you accept the team proposal and wish to save it, otherwise click "No".

#### **Vehicle Registration:**

*US Number: 6*

*Title: Register a Vehicle*

*User/Role: VFM*

*Instructions:*

1. Login as a VFM.
2. Click on "Register Vehicle".
3. Enter the vehicle details including brand, model, type, etc.
4. Click on the "Submit" button to add the vehicle to the system.

#### **Vehicle Check-up Registration:**

*US Number: 7*

*Title: Register a Vehicle's Maintenance*

*User/Role: VFM*

*Instructions:*

1. Login as a VFM.

2. Ensure you have at least one vehicle registered within the system.
3. Click on "Register Maintenance"
4. Select the vehicle from the list needing maintenance.
5. Enter the check-up details such as date, maintenance performed, etc.
6. Click on the "Save" button to record the maintenance date.

#### **Vehicle Check-up List:**

*US Number: 8*

*Title: List Vehicles that need Check-up*

*User/Role: VFM*

*Instructions:*

1. Login as a VFM.
2. Ensure you have at least one vehicle registered with a maintenance date.
3. Click on "List Maintenances"
4. The system lists the vehicles that need maintenance.

#### **Green Space Registration:**

*US Number: 20*

*Title: Register a Green Space*

*User/Role: GSM*

*Instructions:*

1. Login as a GSM.
2. Click on "Register Green Space".
3. Enter the green space details (name, type, and area.)
4. Click on the "Submit" button to add the green space to the system.

#### **To-Do List Entry Creation:**

*US Number: 21*

*Title: Create a To-Do List Entry*

*User/Role: GSM*

#### **Instructions:**

1. Login as a GSM.
2. Ensure you have at least one green space registered within the system.
3. Click on "Add Entry to To-Do List".
4. Enter the entry details including title, task description, degree of urgency, and approximate duration.
5. Select the associated green space from the list.
6. Click on the "Submit" button to add the entry to the to-do list.

#### **Agenda Entry Creation:**

*US Number: 22*

*Title: Create an Agenda Entry*

*User/Role: GSM*

#### **Instructions:**

1. Login as a GSM.
2. Ensure you have at least one to-do list entry created within the system.
3. Click on "Add Entry to Agenda".
4. Select the To-Do List Entry, the associated green space, team, and vehicles from the lists.
5. Click on the "Submit" button to add the entry to the agenda.

**Team Assignment:**

*US Number: 23*

*Title: Assign a Team*

*User/Role: GSM*

**Instructions:**

1. Login as a GSM.
2. Ensure you have at least one team and one agenda entry created within the system.
3. Click on "Assign Team to Agenda Entry".
4. Select the agenda entry from the list.
5. Select the team from the list.
6. Click on the "Submit" button to assign the team to the agenda entry.

**Entry Postponement:**

*US Number: 24*

*Title: Postpone an Entry in the Agenda*

*User/Role: GSM*

*Instructions:*

1. Login as a GSM.
2. Click on "Postpone Agenda Entry".
3. Select an entry from the list.
4. Enter a date to postpone the entry to.
5. Click on the "Submit" button to postpone the entry.

**Entry Cancellation:**

*US Number: 25*

*Title: Cancel an Entry in the Agenda*

*User/Role: GSM*

*Instructions:*

1. Login as a GSM.
2. Click on "Cancel an Agenda Entry".
3. Select the agenda entry from the list.
4. Click on the "Submit" button to cancel the entry.

**Vehicle Assignment:**

*US Number: 26*

*Title: Assign a Vehicle to an Agenda Entry*

*User/Role: GSM*

*Instructions:*

1. Login as a GSM.
2. Ensure you have at least one vehicle and one agenda entry created within the system.
3. Click on "Assign Vehicle to Agenda Entry".
4. Select the agenda entry from the list.
5. Select the vehicle from the list.
6. Click on the "Submit" button to assign the vehicle to the agenda entry.

### **Managed Green Space Listing:**

*US Number: 27*

*Title: List Managed Green Spaces*

*User/Role: GSM*

*Instructions:*

1. Login as a GSM.
2. Click on "List Managed Green Spaces".
3. The system displays a list of all managed green spaces.

### **Consult Tasks:**

*US Number: 28*

*Title: Consult Tasks*

*User/Role: Collaborator*

*Instructions:*

1. Login as a Collaborator.

2. Click on "Consult Tasks".
3. The system displays a list of all tasks assigned to your team.

### **Task Completion:**

*US Number: 29*

*Title: Record Task Completion*

*User/Role: Collaborator*

### **Instructions:**

1. Login as a Collaborator.
2. Click on "Record Task Completion".
3. Select the task from the list of assigned tasks.
4. Enter the completion date.
5. Click on the "Submit" button to record the task completion.

## **5. Troubleshooting**

### **Issue 1. Application Doesn't Open**

*Possible Cause: Corrupted installation, system error, or conflicting software.*

*Solution: Reboot the system and try opening the application again. If the issue persists, reinstall the application.*

### **Issue 2. Error Message During Registration**



*Possible Cause: Incorrect input data*

*Solution: Double-check the input data and ensure the requested data is inputted correctly.*

### **Issue 3. Unable to Assign Skills to Collaborator**

*Possible Cause: Incorrect permissions, system error, or database issue.*

*Solution: Check if you have the necessary permissions to use the functions you have problems with. If the issue persists, try rebooting the .jar or logging out and logging back in.*

### **Issue 4. Information Not Saving**

*Possible Cause: Database error, input validation failure.*

*Solution: Ensure all required fields are filled out correctly and try saving the information again.*

### **Issue 5: Team Proposal Generation Fails**

*Possible Cause: Insufficient data.*

*Solution: Double-check the input data including maximum team size and required skills. If the issue persists, assure you have skills registered successfully.*

### **Issue 6: Maintenance Not Listed**

*Possible Cause: Database issue.*

*Solution: Check the vehicle's maintenance date to see if it needs maintenance. If the issue persists, try rebooting the .jar the page or logging out and logging back in.*

### **Issue 7: Data Loss**

*Possible Cause: Server error, cache issue, or accidental deletion.*

*Solution: Reboot the .jar and check if the data reappears. If not, try logging out and logging back in.*

### **Issue 8. Unable to Register Green Space**

Possible Cause: *Incorrect input data or system error.*

Solution: *Double-check the green space details and ensure all required fields are filled out. If the issue persists, try logging out and logging back in or rebooting the .jar.*

#### **Issue 9. Unable to Create To-Do List Entry**

Possible Cause: *Missing green space registration, incorrect input data.*

Solution: *Ensure you have registered at least one green space. Verify the input data for the to-do list entry. If the problem continues, try logging out and logging back in.*

#### **Issue 10. Unable to Create Agenda Entry**

Possible Cause: *Missing to-do list entry, incorrect input data.*

Solution: *Ensure at least one to-do list entry is created. Verify the input data for the agenda entry. If the issue persists, try logging out and logging back in.*

#### **Issue 11. Task Completion Not Recorded**

Possible Cause: *Incorrect permissions, system error.*

Solution: *Ensure you have the necessary permissions to record task completion. If the problem continues, try logging out and logging back in.*

#### **Issue 12. Unable to Assign Team to Agenda Entry**

Possible Cause: *Missing team or agenda entry, incorrect input data.*

Solution: *Ensure at least one team and one agenda entry are*

*created. Verify the input data. If the issue persists, try logging out and logging back in.*

### **Issue 13. Unable to Assign Vehicle to Agenda Entry**

*Possible Cause: Missing vehicle or agenda entry, incorrect input data.*

*Solution: Ensure at least one vehicle and one agenda entry are created. Verify the input data. If the problem persists, try logging out and logging back in.*

**If any of these problems persist, contact the Helpdesk or Support Service (g073@isep.ipp.pt) for assistance.**

## **6. FAQs**

*Q1: Can I access the application from my mobile device?*

*A1: Currently, the application is only accessible through desktop or laptop computers.*

*Q2: Can I export data from the application for reporting purposes?*

*A2: Yes, you can export data in various formats such as CSV.*

*Q3: Is there a support team available in case I encounter any issues?*

*A3: Yes, you can contact either the Helpdesk or our team at g073@isep.ipp.pt to answer any questions or technical issues you may encounter.*

*Q4: Is there any further documentation I can consult?*

*A4: There is the Glossary, the Supplementary Specifications, and the Use Case Diagram files, all of which are located within the project repository.*

## 7.GLOSSARY

<i>TEA (EN)</i>	<i>Description (EN)</i>
Agenda	The Agenda is a crucial mechanism for planning the week's work.
Bricklayer	A person whose job is to build walls, houses, and other structures with bricks.
Budget managers	People who handle company finances as part of their role.
Collaborator	An individual who works within the organization, may include various roles such as gardeners, maintenance staff and supervisors.
Designer	A person who plans the look or workings of something prior to it being made, by preparing drawings or plans.
Drainage System	A system of watercourses or drains for carrying off excess water.
Drinking Fountains	A device producing a small jet of water for drinking.
Electrician	A person who installs and maintains electrical equipment.
Equipment	Equipment is used to help employees carry out their tasks.
Facility	A place, amenity, or piece of equipment provided for a particular purpose.
Fleet	Set of vehicles used to carry out tasks.
Fleet Manager	Refers to the individual responsible for managing facilities and related resources within the organization.
FM	Acronym for Fleet Manager.

Garden	A garden space with or without trees and with little or no equipment (may have a basic irrigation system or/and benches)
Gardener	A person who tends and cultivates a garden as a pastime or for a living.
Green Space	An area of land, either publicly or privately owned, that is set aside for recreational, aesthetic, or conservation purposes.
Green Spaces Manager	Refers to the person responsible for managing the green spaces in charge of the organization.
Green Spaces User	A person who uses the green spaces managed by the organization and who can, through the Portal, make comments or report faults in parks and gardens on the Portal.
Green Spaces User Portal	An app in which parks and garden users can post comments, and report faults and malfunctions of equipment.
GSM Acronym for Green Spaces Manager	
GSU Acronym for Green Spaces User	
HRM Acronym for Human Resources Manager.	
Human Resources Manager	Refers to the individual or department responsible for managing human resources within the organization.
Irrigation	The artificial application of water to land or soil to assist in the growth of plants.
Job	A specific role or position within the organization, defining the responsibilities and requirements for a collaborator.
Lakes	A large area of water surrounded by land.
Large-sized park	Multi-function space with diverse garden spaces, and woods, including varied equipment and services (for example, Parque da Cidade).
Lighting system	The elements that are required to maintain a desired light level, including lamps, light fixtures, fixture distribution, sensors
Machines	Machines are used to help employees move around and take equipment to locations.
Maintenance/Check-up Frequency	The interval at which a vehicle requires maintenance or routine check-ups, typically expressed in kilometers.
Medium-sized park	A green space with a few hundred or thousands of square meters with a wooded garden area, it includes some infrastructures such as toilets, drinking fountains, irrigation system, lighting, children's playground (for example, Quinta do Covelo, Jardim d'Arca de Água);
MusgoSublime	An organization dedicated to the planning, construction and maintenance of green spaces for collective use in their multiple dimensions, namely: plant material (e.g. flowers, shrubs, trees); urban furniture (e.g. benches, tables, gymnastics equipment); irrigation systems and drinking fountains; lighting systems and the respective power supply; rainwater conduction and drainage systems
Park	A large public garden or area of land used for recreation.
Power Supply	A device that converts one voltage to another more convenient voltage while delivering power.

QAM Acronym for Software Quality Assessment Team Manager.	
Skill	An ability or proficiency possessed by collaborators, relevant to their job roles within the organization.
Software Quality Assessment Team Manager	A person who manages the Software Quality Assessment Team and its process.
Task	Tasks are carried out on an occasional or regular basis, in one or more green Task spaces, for example: tree pruning, installation of an irrigation system and installation of a lighting system.
Teams	Teams are temporary associations of employees who will carry out a determined set of tasks
Team Proposal	A suggested composition of collaborators for a particular task or project, based on predefined criteria such as required skills and team size.
Tree	A wooden structure or part of a structure.
Urban Green Space	Green areas within urban areas, including parks, gardens, and other landscaped areas.
Vehicles	Vehicles are needed to transport machines and equipment. This type of vehicle may be only for passengers or mixed, light or heavy, open box or closed vans or trucks.
Vehicle and Equipment Fleet Manager	A person who manages the fleet park, the machines, equipment and vehicles, ensuring their good condition.
VFM Acronym for Vehicle and Equipment Fleet Manager	