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SMARTGREEN



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USER MANUAL  
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# SmartG reen S ystem

Welcome to the SmartGreen User Manual! This guide provides instructions for effectively using the system to manage green spaces, including teams, vehicles, irrigation, and user interaction.

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# GLOSSARY

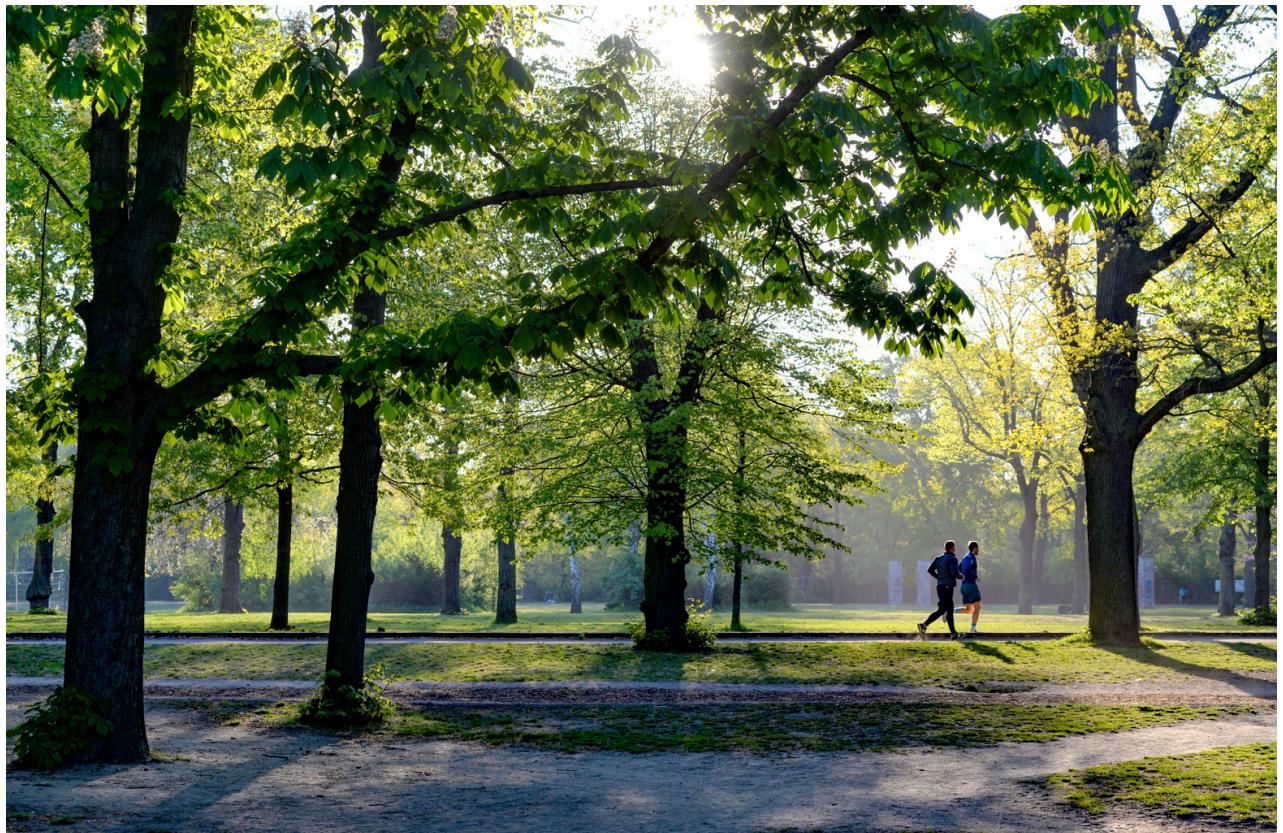
Term	Description
Agenda	A list of tasks to be completed.
Check-Up	Routine maintenance on vehicles or equipment.
Collaborator	An employee who contributes to managing green spaces.
Comments	Feedback from users about green spaces.
Entry	A task requiring completion, including details like urgency, duration, and location.
Flaws	Defects identified in green spaces.
Garden	A small green space with or without trees.
Green Space	An area with grass, trees, or other vegetation in an urban environment.
GSM	Green Spaces Manager, responsible for managing green spaces.
GSU	Green Spaces User, who uses and can report issues on green spaces through the portal.
HRM	Human Resources Manager, responsible for staff and defining teams.
Job	A specific role assigned to a collaborator based on their skills.
Large-sized park	A multi-function space with diverse gardens, woods, and equipment.
Malfunctions	Issues reported by users regarding green spaces.
Manager	An individual with decision-making and oversight responsibilities.
Medium-sized park	A green space with a few hundred or thousands of square meters, including some infrastructure.
MS	MusgoSublime, the organization managing the green spaces.
Organization	The entity responsible for managing green spaces.
Portal	An online platform for users to report issues or leave comments.
Schedule	A plan specifying tasks within a timeframe.
Skill	An ability or proficiency relevant to a job role.
Status	The state of an entry (pending, scheduled, or canceled).
Task	A specific assignment to be completed within a timeframe and budget.
Team	A group working together on a common task.
To-Do List	A list of tasks that need to be completed.
Urgency	The priority level of an entry (low, medium, or high).
Vehicles, Machines, Equipment	Resources used for managing green spaces.
VFM	Vehicle and Equipment Fleet Manager, responsible for maintaining the vehicle fleet.

01

# INTRODUCTION - 02

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Welcome to the user manual for SmartGreen, your comprehensive guide to effectively using our innovative IT solution designed for organizations responsible for planning and maintaining urban green spaces. This manual provides detailed instructions and information to help you navigate and utilize the system effectively. SmartGreen is a robust system that integrates various functionalities to streamline the management of urban green spaces. It includes features for team management, vehicle and equipment management, irrigation system planning, and user interaction through a dedicated portal. This user manual is structured to provide a clear understanding of the system's features, functionalities, and how to use them. It includes a glossary of terms used within the system, an overview of the system, system requirements, detailed descriptions of system features, troubleshooting guides, and frequently asked questions (FAQs). Thank you for choosing SmartGreen. We hope this user manual assists you in your journey towards efficient and effective green space management.

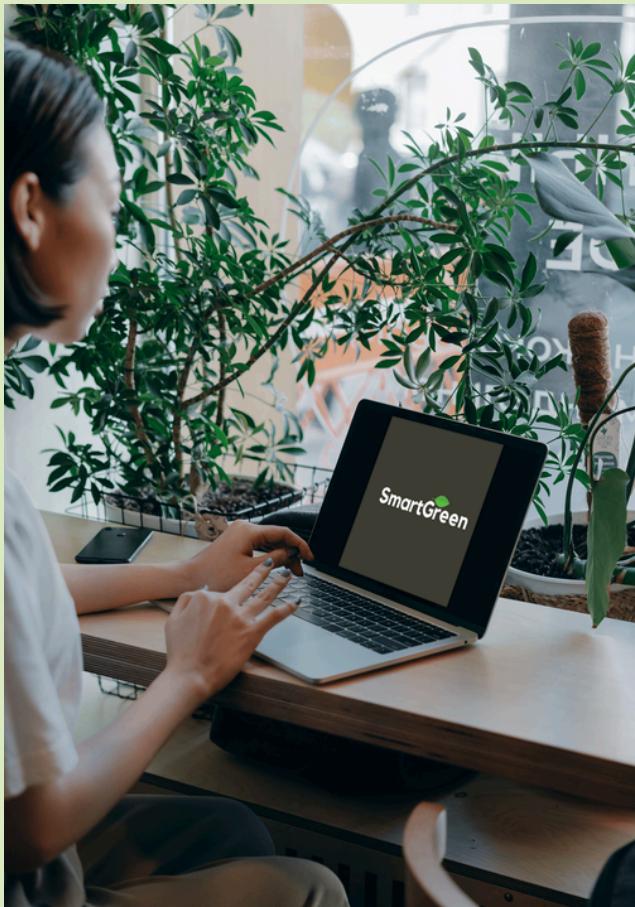


# SYSTEM OVERVIEW - 03

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SmartGreen is a software solution that supports critical tasks for organizations managing and maintaining public green spaces.

- Key Components:
  - Team Management: Organize and assign tasks to teams.
  - Vehicle and Equipment Management: Track and maintain vehicles and equipment.
  - Irrigation System Planning: Optimize irrigation system planning and building.



# SYSTEM FEATURES - 04

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- User Stories:

1. As a Human Resources Manager (HRM), I want to register skills that a collaborator may have.
2. As an HRM, I want to register a job that a collaborator needs to have.
3. As an HRM, I want to register a collaborator with a job and fundamental characteristics.
4. As an HRM, I want to assign one or more skills to a collaborator.
5. As an HRM, I want to generate a team proposal automatically.
6. As a VFM, I wish to register a vehicle including Brand, Model, Type, Tare Weight, Gross Weight, Current Km, Register Date, Acquisition Date, and Maintenance/Check-up Frequency (in km).
7. As a VFM, I wish to register a vehicle's maintenance.
8. As a VFM, I want the system to produce a list (report) of vehicles needing maintenance.
9. As a GSM, I want to add a new entry to the To-Do List.
10. As a GSM, I want to add a new entry in the Agenda.
11. As a GSM, I want to assign a Team to an entry in the Agenda.
12. As a GSM, I want to Postpone an entry in the Agenda to a specific future date.
13. As a GSM, I want to Cancel an entry in the Agenda.
14. As a GSM, I want to assign one or more vehicles to an entry in the Agenda.
15. As a GSM, I need to list all green spaces managed by me.
16. As a Collaborator, I wish to consult the tasks assigned to me between two dates.
17. As a Collaborator, I want to record the completion of a task.



# SYSTEM FEATURES - 05

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- **User Stories:**

1. As a GSM, I want to know the exact costs referring to water consumption of specific green space.
2. As a GSM, I want to know which piece(s) of equipment is/are used in each day so that I can understand the users' preferences.
3. As a GSM, I want to be able to collect data from the user portal about the use of the park, so that I may understand the use of the park by different age groups.
4. As a GSM, I want to import a .csv file containing lines with: Water Point X; Water Point Y; Distance into a unique data structure.
5. As a GSM, I want to apply an algorithm that returns the routes to be opened and pipes needed to be laid with a minimum accumulated cost, ensuring that all points are adequately supplied.
6. As a QAM, I want to run tests for inputs of variable size, to observe the asymptotic behavior of the execution time of the US13 algorithm.
7. The monthly cost associated with water consumption in each park is related to its size.
8. Applying polynomial regression, determine the best line that fits the data.
9. As a GSM, I want to place signs to evacuate (in case of emergency) park users to an Assembly Point so that these signs give a shortest route from these different points (where the signs will be placed) to the Assembly Point.
10. As a GSM, I want to place signs to evacuate (in case of emergency) park users to one of the several Assembly Points, so that these paths give a shortest routes to the closest Assembly Point.
11. As a QAM, I want to conclude about the worst-case time complexity of the procedures developed.



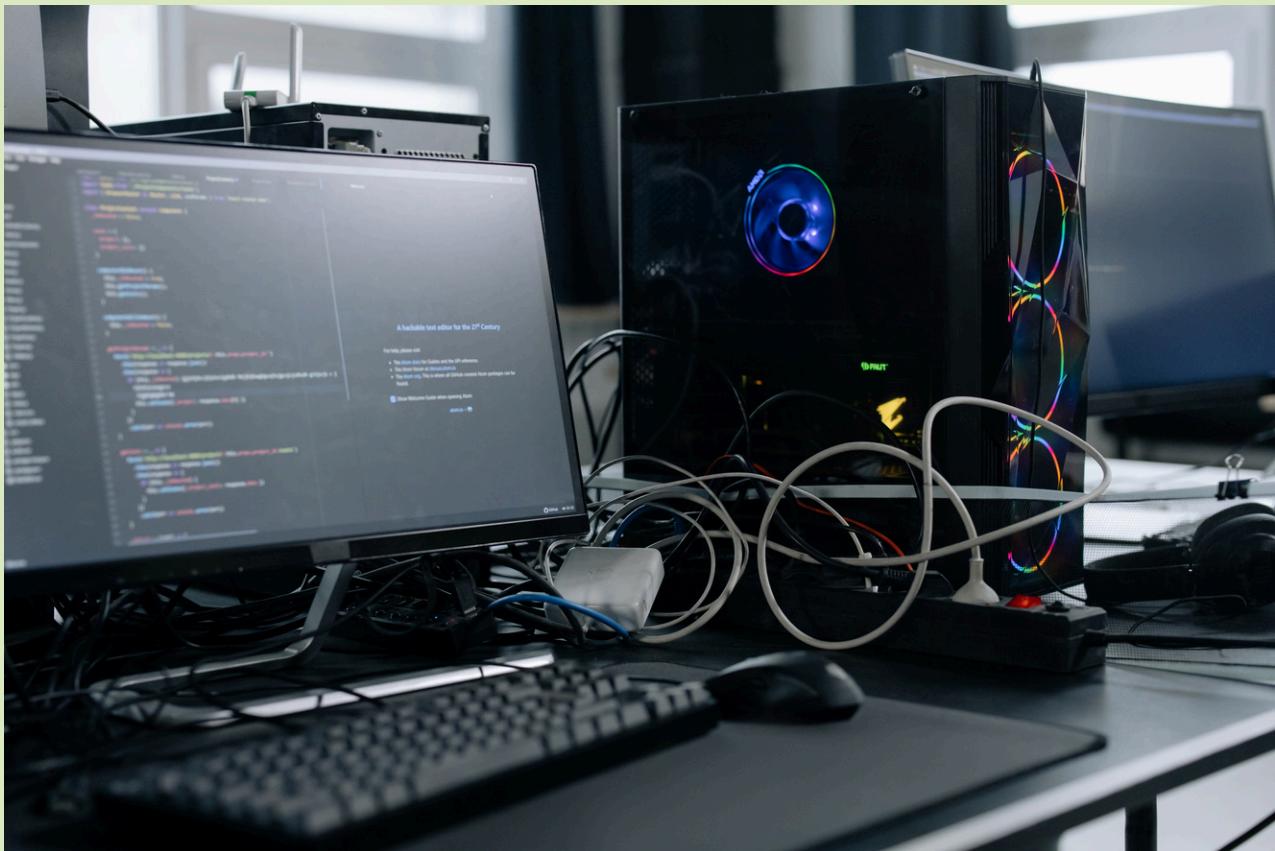
# SYSTEM REQUIREMENTS - 05

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To ensure optimal performance and a seamless user experience with [Name of Software], it is essential to verify that your computer system meets the following minimum hardware and software requirements. This section outlines the necessary specifications for both your computer's internal components and the software programs it needs to run [Name of Software] effectively. By reviewing these requirements before installation, you can avoid potential compatibility issues and guarantee a smooth and successful experience with the software.

## System Requirements:

- **Hardware:**
  - Processor: Dual-core CPU or higher
  - Memory: 4 GB RAM or more
  - Storage: 500 MB of free disk space
  - Network: Internet connection for portal access
- **Software:**
  - Operating System: Windows 10 or higher, macOS 10.14 or higher, Linux
  - Java Runtime Environment: JRE 8 or higher
  - Web Browser: Latest version of Chrome, Firefox, Safari, or Edge



# TROUBLESHOOTING - 06

Issue	Solution
System not starting.	Ensure Java Runtime Environment is installed and updated. Check system requirements and compatibility.
Unable to register a collaborator.	Verify that all required fields are filled correctly and meet the specified constraints (e.g., valid taxpayer number and ID).
Maintenance report not generating.	Check vehicle data for completeness and ensure maintenance records are up-to-date.
Unable to generate a team proposal.	Ensure that there are enough collaborators with the required skills registered in the system. If the problem persists, check for any system errors in the logs.
Water consumption analysis not working.	Verify that all green spaces have accurate and up-to-date water consumption data. If the data is correct and the problem persists, there might be an issue with the statistical analysis feature. Check the system logs for any errors.
Unable to log vehicle maintenance.	Make sure that the vehicle you are trying to log maintenance for is registered in the system. Also, ensure that all the required fields in the maintenance log form are filled out correctly.

# TROUBLESHOOTING - 06

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Issue	Solution
User feedback not showing up in the User Portal section.	Check the connection to the database where the feedback is stored. If the connection is fine, there might be an issue with the User Portal feature. Check the system logs for any errors.
Unable to assign a team to a task.	Ensure that the task and the team are both registered in the system. If they are and the problem persists, there might be an issue with the Team Management feature. Check the system logs for any errors.
User feedback not showing up in the User Portal section.	Check the connection to the database where the feedback is stored. If the connection is fine, there might be an issue with the User Portal feature. Check the system logs for any errors.
Unable to postpone or cancel an entry in the Agenda.	Make sure that the entry you are trying to postpone or cancel is registered in the system and has not already been completed or cancelled. If the entry is valid and the problem persists, there might be an issue with the Agenda feature. Check the system logs for any errors.
Unable to assign a vehicle to an entry in the Agenda	Ensure that the vehicle and the entry are both registered in the system. If they are and the problem persists, there might be an issue with the Vehicle Management or Agenda feature. Check the system logs for any errors.

# FREQUENTLY ASKED QUESTIONS (FAQS) - 07

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**Q1:** How do I register a new collaborator?

**A:** Go to the Collaborator Management section, select "Register New Collaborator," and fill in the required fields including name, birth date, job, and contact information.

**Q2:** How can I generate a team proposal?

**A:** In the Team Management section, choose "Generate Team Proposal," enter the required team size and skills, and the system will provide a suitable team composition.

**Q3:** How do I log vehicle maintenance?

**A:** Navigate to the Vehicle Management section, select the vehicle, and click on "Log Maintenance" to record the details of the maintenance activity.

**Q4:** How can I analyze water consumption?

**A:** Use the Statistical Analysis feature, select "Water Consumption Analysis," and input the desired parameters to generate consumption reports and cost analysis.

**Q5:** Where can I find user feedback?

**A:** User feedback can be accessed through the User Portal section, where comments and fault reports are listed for review and response.

**Q6:** How do I register a new vehicle?

**A:** Navigate to the Vehicle Management section, select "Register New Vehicle," and fill in the required fields including brand, model, type, and maintenance frequency.

**Q7:** How do I assign a team to a task?

**A:** In the Team Management section, select the task, then choose "Assign Team." Select the team you wish to assign to the task.

**Q8:** How do I postpone an entry in the Agenda?

**A:** Go to the Agenda section, select the entry you wish to postpone, and choose "Postpone Entry." Select the new date for the entry.

**Q9:** How do I cancel an entry in the Agenda?

**A:** Navigate to the Agenda section, select the entry you wish to cancel, and choose "Cancel Entry."

**Q10:** How do I assign a vehicle to an entry in the Agenda?

**A:** In the Agenda section, select the entry, then choose "Assign Vehicle." Select the vehicle you wish to assign to the entry.

**Q11:** How do I add a new entry to the To-Do List?

**A:** Go to the To-Do List section and select "Add New Entry." Fill in the required fields and save the entry.

**Q12:** How do I record the completion of a task?

**A:** Navigate to the Tasks section, select the completed task, and choose "Record Completion." Confirm the completion of the task.

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