**Maintenance Manual**

**Project Name:** Goat Observation and Assessment Technology (G.O.A.T)  
**Team Name:** Mean Green Solutions  
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**1. Introduction**

This manual is designed to help you keep your G.O.A.T. system running reliably every day. Even if you're not experienced with computers, this guide will walk you through everything you need to do to keep your equipment and software in good working order. It includes step-by-step guidance for both routine and more occasional tasks.

Think of this like a farm maintenance checklist—but for your grading system. Simple things like cleaning camera lenses or restarting the system regularly can make a big difference in how well it works.

**2. System Overview**

The G.O.A.T. system is a complete setup that helps you grade live goats by analyzing their photos with a computer program. Here's what the system includes:

* A **Windows computer** that runs the grading software.
* **Four cameras** that take pictures of the goat from different angles: front, side, back, and top.
* A **grading program** that looks at these pictures and assigns a grade and price.
* A **database** that stores all the goat data, like tag number, grade, price, and breeder.

Everything is connected so that once you input the goat's tag or breeder info and take the photos, the system does the rest.

**3. Maintenance Objectives**

The goal of this maintenance manual is to help you:

* Keep the system working smoothly every day.
* Ensure that the grades assigned to goats remain accurate.
* Make sure all the equipment (cameras, cables, and computer) is in good condition.
* Protect your goat data so nothing gets lost or hacked.
* Get the system running again quickly if something goes wrong.

By following the simple steps in this manual, you can trust that your system will continue working well and help you run your operation efficiently.

**4. Routine Maintenance Tasks**

These are simple tasks that should be done regularly. Many of them can be done in just a few minutes.

| **Task** | **When to Do It** | **Who Should Do It** | **How to Do It** |
| --- | --- | --- | --- |
| **Clean the camera lenses** | Every day | You (or anyone using the system) | Use a soft cloth (like a glasses cloth) to gently wipe each lens. Make sure there's no dust, dirt, or smudges. |
| **Restart the system** | Once a week | You | Turn the computer off, wait 30 seconds, and turn it back on. This helps the software run smoother. |
| **Check for software updates** | Every 2 weeks | Your technician or someone comfortable with a computer | Open the G.O.A.T. software and click "Check for Updates" in the settings menu. Follow the instructions to install any updates. |
| **Back up the database** | Once a week | Your technician or designated helper | Use the backup tool in the software to save a copy of your goat data. This can be saved to a USB or cloud storage. |
| **Inspect cables and cameras** | Once a month | You or a technician | Make sure all cables are plugged in securely and look for damage (like fraying or loose connections). |
| **Review the AI grading model** | Once a month | Developer or technician | The person who maintains the software will make sure the grading is still accurate. This might require re-training the model with new goat images. |

**5. Software Maintenance**

This section explains how to keep the software part of the G.O.A.T. system working well.

* **When Updates Are Available:** You’ll be notified in the software when an update is available. Updates fix bugs and improve performance.
* **How to Update the Software:**
  1. Click the “Check for Updates” button in the G.O.A.T. software.
  2. If there is an update, click “Download and Install.”
  3. Make sure no one is using the system during the update.
  4. Once done, restart the computer.
* **Error Logs:** If something goes wrong, the system writes a note about the problem in a file. This is called a log. If you need help, send this file to the technician or developer. You can find it in a folder called logs inside the software’s main folder.
* **Keeping Track of Versions:** After every update, write down the version number (you can find this on the main screen of the software) and date in a notebook or spreadsheet.

**6. Hardware Maintenance**

* **Cameras:** Wipe camera lenses gently with a soft cloth daily. Make sure they’re pointed correctly and nothing is blocking the view.
* **Cables and Power Supply:** Check that all cables are plugged in securely. Look for signs of damage, like fraying or loose ends. Replace if needed.
* **Computer:** Keep it in a clean, dry space. Don’t place drinks or food nearby. Dust the vents once a month so it doesn’t overheat.
* **Weight Scale (if used):** Calibrate it at least once every three months. Instructions should be in the scale’s manual.

**7. Troubleshooting Guide**

| **Problem** | **Likely Cause** | **What to Do** |
| --- | --- | --- |
| No image from one camera | Camera unplugged or dirty lens | Check the cable and wipe the lens. Restart the system. |
| Grading seems wrong | Lighting or model needs update | Take photos in better lighting. Ask technician to review AI model. |
| App won't open | Computer or app error | Restart the computer. If that doesn’t work, contact support. |
| Data not saving | Disk full or database not connected | Check storage space. Reconnect database or restart software. |

**8. Backup and Recovery Procedures**

* **Backing Up:** Open the G.O.A.T. software and go to the backup tool. Click “Export Data” to create a file of your goat records. Save this file to a USB drive or upload it to Google Drive.
* **Restoring Data:** If your system crashes, use the “Import Data” button in the backup tool. Select the most recent backup file to restore your records.
* **Backup Schedule:** It’s safest to back up your data once per week. Set a reminder!

**9. Security Maintenance**

* **Passwords:** Change passwords every 3 months. Use something strong that others can’t guess easily.
* **Software Protection:** Make sure antivirus is installed on the computer. Run a scan every month.
* **Privacy:** Only let trusted people use the G.O.A.T. system. Keep your goat data secure.

**10. Documentation Updates**

Every few months, check that your printed and digital manuals are still accurate. If your system changes or updates are added, write those changes down. This helps if someone new has to use the system or if you need support later.

**11. Contact Information**

**Technical Support Email:** [support@meangreen.solutions](mailto:support@meangreen.solutions)  
**Support Phone (optional):** TBD

**Team Contacts:**  
Albert Kileo – Developer  
Jack Follett – Tester & Support  
Jesus Chavez – User Interface Lead

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