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# RECYCLING MACHINE

| **Type** | **Category / Functionality** | **Requirement Description** |
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| **Functional** | Material Identification | Identify and classify different types of recyclable materials (plastic, glass, metal, paper). |
|  | Material Sorting | Sort the identified materials into appropriate bins or compartments. |
|  | Material Cleaning | Clean or preprocess materials if required before recycling. |
|  | Material Compression | Compress materials to reduce volume for easier handling and transportation. |
|  | User Interface | Provide an easy-to-use interface for users to operate the machine and receive feedback. |
|  | Payment/Reward System | Calculate and dispense rewards or credits based on the quantity and type of material recycled. |
|  | Error Detection | Detect and alert users about errors like foreign objects, jams, or full bins. |
|  | Reporting | Generate reports on recycled quantities and machine status for maintenance and management. |
|  | Security | Restrict unauthorized access to the machine’s control systems. |
|  | Maintenance Alerts | Notify operators about required maintenance or part replacements. |
| **Non-Functional** | Performance | Process each recyclable item within 5 seconds. |
|  | Reliability | Operate continuously with minimal downtime and handle errors gracefully. |
|  | Usability | User interface should be intuitive, multilingual, and accessible to people with disabilities. |
|  | Safety | Comply with safety standards to prevent injury to users and operators. |
|  | Environmental | Be energy efficient and produce minimal noise and emissions during operation. |