**Step 1 – Understand What HACS Is**

**Home Automation and Control System (HACS)** is a system that allows you to **monitor, control, and automate** devices in a home — such as lights, fans, air conditioners, security cameras, door locks — from a central interface (like a mobile app or web panel).

**Example features:**

* Turn lights on/off remotely.
* Set timers or schedules for appliances.
* Monitor energy usage.
* Security alerts for doors/windows.
* Voice control integration (e.g., Alexa, Google Assistant).

**Step 2 – Structure of Your SRS for HACS**

Below is an **SRS template** you can directly adapt to your project.

**1. Introduction**

**1.1 Purpose**  
The purpose of the Home Automation and Control System (HACS) is to provide users with centralized and remote control over household devices, increasing convenience, energy efficiency, and security.

**1.2 Scope**  
HACS will allow users to monitor and control devices via a smartphone app or web dashboard. The system will support:

* Device control (lights, fans, AC, etc.)
* Scheduling and automation
* Security monitoring (door/window sensors, cameras)
* Real-time notifications

It will not handle large industrial automation or offline-only control.

**1.3 Definitions, Acronyms, and Abbreviations**

* **HACS** – Home Automation and Control System
* **IoT** – Internet of Things
* **UI** – User Interface

**1.4 References**

* IEEE 830-1998 Standard for SRS
* IoT device manuals
* Academic papers on smart home systems

**1.5 Overview**  
The rest of this document describes the functional, non-functional, and interface requirements of HACS.

**2. Overall Description**

**2.1 Product Perspective**  
HACS is a standalone system but can integrate with smart speakers and IoT cloud services.

**2.2 Product Features**

* Remote device control
* Scheduled automation
* Device status monitoring
* Security alert notifications

**2.3 User Characteristics**

* Basic smartphone knowledge
* Internet access

**2.4 Constraints**

* Requires internet connectivity
* Limited to compatible IoT devices
* Mobile app available for Android and iOS only

**2.5 Assumptions and Dependencies**

* All devices are connected to a stable Wi-Fi network
* User has valid login credentials

**3. Specific Requirements**

**3.1 Functional Requirements**

* FR1: The system shall allow users to log in securely.
* FR2: The system shall display the status of connected devices.
* FR3: The system shall allow turning devices ON/OFF.
* FR4: The system shall send push notifications for security alerts.
* FR5: The system shall allow scheduling device actions.

**3.2 Non-functional Requirements**

* Performance: Response time under 2 seconds for device control.
* Reliability: 99% uptime for cloud services.
* Security: Data encryption using SSL/TLS.
* Usability: Simple, intuitive UI.

**3.3 External Interface Requirements**

* Mobile app interface
* Cloud server API
* Hardware interface with IoT devices

**4. Appendices**

* System architecture diagram
* Example device control flowchart
* Glossary of technical terms