Risk Documentation

Interactive House – Subgroup 2: Units

Revision History

Date	Version	Description	Author
2026-02-06	1.0	Initial risk assessment for the Units development subgroup.	Daniel Jönsson

Risk List

Risk Description	Priority
R1. Inability to establish stable communication between the mobile/web units and the house server.	High
R2. Difficulty in dynamically rendering User Interfaces (UIs) sent from the server for new devices.	High
R3. Team members failing to complete assigned UI components or speech modules within the iterative cycle.	Medium
R4. Compatibility issues across different mobile platforms	Medium
R5. Inconsistent UI Scaling across Different Display Formats	Medium

Risk Handling Plans

R1. Inability to establish stable communication between the mobile/web units and the house server.

Impact
If the mobile phone or web application cannot communicate with the server, users will be unable to observe or control any house devices. This effectively breaks the core purpose of the unit subgroup.

Indications
Unit test code for server requests returns timeouts or connection errors; the unit fails to receive the initial list of available devices from the server.

Mitigation Strategy
Establish a clear communication protocol/interface with the Server Subgroup early in the design phase. Develop a Mock Server for early unit testing to ensure the UI can handle data once the real server is ready.

R2. Difficulty in dynamically rendering User Interfaces (UIs) sent from the server for new devices.

Impact
The system will fail to be scalable; new devices like a coffee machine or media player will not be controllable if the unit cannot upload and display their specific UI components.

Indications
The unit connects to the server but fails to display the on/off buttons or readouts for certain device types.

Mitigation Strategy
Standardize the UI distribution format like software components for touch screen GUIs across all subgroups. Ensure the server database correctly stores and pushes these UI components to the unit upon request.

R3. Team members failing to complete assigned UI components or speech modules within the iterative cycle

Impact
Delays in the unit subgroup increase the workload for other members and hinder integration tests during the iterative RUP-based process.

Indications
A developer never presents finished code during formal meetings or provides vague updates about progress.

Mitigation Strategy
Clearly define individual tasks and ensure everyone knows their specific responsibilities. Encourage a team-based culture where members ask for help early to solve technical blockers.

R4. Compatibility issues across different mobile platforms

Impact
The application may fail to support users with disabilities if it relies solely on touch screens that are unavailable or incompatible with certain hardware.

Indications
The GUI component is slightly different or non-functional on older phones or specific browser versions.

Mitigation Strategy
Incorporate alternative interaction techniques like speech recognition and gestures as core requirements early in the project. Use common frameworks like Android or web-based interfaces to ensure a more uniform communication model.

R5. Inconsistent UI Scaling across Different Display Formats

Impact
Degraded user experience (UX) where buttons may be too small or text overlaps, though core system control remains functional.

Indications
Visual artifacts or layout distortions appear when switching between small mobile phone screens and larger laptop web interfaces.

Mitigation Strategy
Strive for context-dependent ways of communicating and utilize responsive design patterns for all UI components. Test UI rendering on various screen resolutions (laptop, tablet, and phone) during the prototype phase.