# Use Case # [3: Adding a new speaker to the system]

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| GENERAL CHARACTERISTICS | |
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| **Last Update:** | 9/23/2017 |
| **Scope** | Home Automation System |
| **Level** | User-goal |
| **Status** | Incomplete Conceptualization |
| **Primary Actor** | Mobile Application User |
| **Secondary Actors** | Server; Mobile Application |
| **Stakeholders and Interests** | Mobile App User: Wants to register their new speaker to the system. |
| **Preconditions** | User has Mobile application installed and registered. |
| **Success Post Condition** | The speaker is successfully registered for a room. |
| **Failed Post Condition** | The speaker is not registered for a room. |

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| MAIN SUCCESS SCENARIO (or basic flow) | |
| **Step** | **Action -** description in words of each step in success scenario |
| 1 | The user uses the mobile application and navigates to the “add a device” menu |
| 2 | The mobile app displays the options of devices to add |
| 3 | The user selects the speaker option. |
| 3 | The mobile app instructs the user to connect to the speaker through bluetooth and then click register. |
| 4 | The user connects to the speaker and begins the register process. |
| 5 | The mobile app records the information for the speaker and asks the user to designate the room in which the speaker will be located. |
| 6 | The users selects the room manually or uses their mobile device location. |
| 7 | The mobile app sends the information to the server. |
| 8 | The server records the new speaker to its database. |
| 9 | The speaker is now registered. |

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| EXTENSIONS or Alternate Flows | |
| **Step** | **Branching Action** |
| *n..m* | \*a At any time the server fails:   1. Server attempt to find and fix issues   1a. Server is offline  1. App informs the user that no server is detected  2. User restarts the server  3. App reconnects to the server    1b. Server crash  1. Server auto restart  1a. Server fails to auto restart  1. Mobile app informs the user after 1 minute of no response from the server  2. User manually restarts server   1. Server requests information from the mobile application and resumes normal functionality   \*b At any time the mobile application fails:  1. Mobile app searches for issue  1a. Mobile app has no network connection  1. App attempts to connect to wifi to restore connection  1a. App fails to connect to wifi  1. The information is stored on the app and queue to send when connection is restored  2. The app informs the user that it has no network connection.  2a. Mobile application crashes  1. Mobile app sends information about the cause of the crash  2. App attempts to auto restart  2a. Fails to auto restart  1. User manually restarts the app  2. App sends information to the server  3. Mobile app sends its information to the server and reestablishes connections based on what the server sends back |
| 4a. The user cannot connect to the speaker  1. The user must ensure that the speaker is on, in pair mode and not connect to any other devices.  1a. The speaker is off  1. The user powers on the speaker and puts it in pair mode  1b. The speaker is not in pair mode  1. The user puts the speaker in pair mode  1c. The speaker is connected to another device  1. The user disconnects the other devices  2. The user attempts to connect to the speaker  2a. The connection fails  1. Attempt to connect again  2. If it fails again, the speaker may be damaged.  6a. The use current location feature selects the wrong room  1. The user clicks the back arrow to try again  2. The user selects the correct room for the speaker  8a. The speaker has already been registered to another room  1. The server tells the mobile app that the device has been registered before and tells what room  2. The mobile app asks the user if they want to keep the old registered room or replace it  3. The user select their choice.  4. The mobile app informs the server of the decision  5. The server performs that action for the speaker. |
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| SPECIAL REQUIREMENTS | |
| **Req Num** | **Requirement** |
| *n* | 1. Speaker registration is restricted to users 2. Server communications require authentication 3. Server communication allowed outside of the local network |

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| TECHNOLOGY AND DATA VARIATIONS LIST | |
| **Var Num** | **Variation** |
| *n* | 7a. Communications are done over a wireless network so server would need internet and mobile device would need mobile data or be connected to wifi  7b. Keyboard is required to restart server as admin passwords would be needed |

***FREQUENCY OF OCCURRENCE***: Often. It would occur as often as the user changes rooms

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| OTHER ISSUES | |
| **Issue Num** | **Issue** |
| *n* | 1. How will we restrict who can add speakers? 2. How do we deal with multiple speakers put in one room? |