# Use Case # [1: Turning on speaker by leaving a room]

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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 for their music to follow them as they change rooms by connecting to different speakers depending on location. |
| **Preconditions** | User has Mobile application installed and registered.  User is playing music |
| **Success Post Condition** | Any previously connected speakers are disconnected. The new closest speaker is connected and music continues to play through it. |
| **Failed Post Condition** | The closest speaker is not connected to the phone and not playing their music. |

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| MAIN SUCCESS SCENARIO (or basic flow) | |
| **Step** | **Action -** description in words of each step in success scenario |
| 1 | The user walks into a new room |
| 2 | The mobile app sends a message to the server telling it what room it has entered. |
| 3 | The server receives the information and finds the speaker registered for that room. It sends that speaker’s information back to the mobile application. |
| 4 | The mobile app receives the speaker information and locates new speaker through bluetooth and connects to it. |
| 5 | New speaker is now playing music |

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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 |
| 3a. No speaker is found for that room  1. The system tells the mobile app that no new speaker is available  2. The mobile app remains connected to the old speaker  4a. Speaker is already connected to another bluetooth device  1. The mobile app informs user that the speaker is currently in use  2. User disconnects other device from the speaker  3. mobile app connects to speaker  3a. fails to connect to speaker  1. reconnects to old speaker  4b. Speaker is offline  1. The mobile app informs the user that the speaker is offline  2. User powers on the speaker  3. Mobile app connects to speaker  3a.fails to connect to speaker  1. reconnects to old speaker |
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| SPECIAL REQUIREMENTS | |
| **Req Num** | **Requirement** |
| *n* | 1. Speaker connections 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* | 2a. Communications are done over a wireless network so server would need internet and mobile device would need mobile data or be connected to wifi  2b. 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 be approach device authentication? 2. How will the speaker’s information be stored? 3. Should there be dead times to prevent accidental connect late at night? |