**Use Case # [6: Turning on light bulb by entering a room]**

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| ***GENERAL CHARACTERISTICS*** | |
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| **Last Update:** | 9/25/2017 |
| **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 modify the brightness of the light source of current room |
| **Preconditions** | User has Mobile application installed and registered.  User has at least one light source turned on |
| **Success Post Condition** | The User can modify the brightness of the light sources currently turned on. |
| **Failed Post Condition** | The light source does not change brightness according to the setting changes by the user. |

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| ***MAIN SUCCESS SCENARIO (or basic flow)*** | |
| **Step** | **Action -** description in words of each step in success scenario |
| 1  2  3  4  5  6 | The user has at least one light source on.  The user opens up window on app  The user accesses a setting page that contains a controller to modify the brightness of connected light sources  User sets desired brightness  All light sources that are connected to the server and are on have their brightness throttled to according to app setting  All light sources that are turned on in the future are turned on to the intensity specified by the app |

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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 |
|  | 1A. No light source is currently turned on   1. Brightness setting is saved 2. Lights turned on in the future are turned on to the brightness specified by the saved setting |
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| ***SPECIAL REQUIREMENTS*** | |
| **Req Num** | **Requirement** |
| *n* | 1. Light 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  5A. Light source must be capable of adjusting brightness |

***FREQUENCY OF OCCURRENCE***: Common but not necessarily often

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| ***OTHER ISSUES*** | |
| **Issue Num**  **1.**  **2.** | **Issue**  Do all connected lights have to be able have their brightness adjusted? What type of light source allows this?  If some light sources aren’t required to be able to adjust their light source, how are they treated separately from the adjustable light sources by the server? |