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| **Student Name** | **Student ID** | **Date** |
| Michael Wright | 100741876 | February 15th, 2011 |
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| **Use Case Name:** | **Handle Break-in** |
| **Brief Description:** | The system handler triggers its own internal sound alarm, broadcasts trigger signals to all cells, causing all alarms in the entire house to be triggered, places a phone call to a pre-defined phone number and finally writes the event to the log. |
| **Precondition** | The system is enabled.  A break in has not been invalidated |
| **Primary Actor** | Timer |
| **Secondary Actors** | Alarm, Phone Line |
| **Dependency** |  |
| **Generalization** |  |

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| **Basic Flow** | | |
| **Step #** |  | |
|  | The timer sends a signal to the system to initiate the handle break-in procedure. | |
|  | The system triggers internal sound alarm. | |
|  | DO | |
| **Step #** |  |
|  | The system sends a trigger system to a cell handler. |
|  | The cell handler triggers its connected alarms. |
| UNTIL all connected alarms have been triggered. | |
|  | The system places a phone call through the phone line | |
|  | The system logs the break in with all the relevant information. | |
| **Postcondition**: | Internal sound alarm has been triggered.  All connected alarms have been triggered.  Phone call has been made.  Event has been logged. | |

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| **Specific Alternative Flows**: Phoneline has failed | | |
| **BFS** 4 | **Branching action** | |
|  | **Steps** | **Action** |
|  | Log phoneline failed |
| **Postcondition**: | Phoneline failure has been logged  Execution has resumed at BFS 5 | | |

Test Plan:

1. Assert basic flow path satisfies its post conditions
2. Assert execution continues if a cell handler is failed, satisfying the basic flow post conditions.
3. Assert execution continues if cell handler’s alarms have failed (>1), satisfying the basic flow post conditions.
4. Assert if PhoneLine has failed “Phoneline has failed” specific alternative flow has been satisfied, execution was able to resume.
5. Assert exection continues if the internal sound alarm has failed.