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| Outbreak Smartphone App for iPhone  Use Case: Update Location |

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| **Date** | **Version** | **Description** | **Author** |
| 26-Jan-12 | 1.0 | First draft | Tanner Smith |
| 28-Jan-12 | 1.1 | QA Formatting | Sean Marek |
| 2-Feb-12 | 1.2 | Group revision | GROUP |
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Use Case: Update Location

# Update Location

## Brief Description

This use case updates user latitude and longitude GPS coordinates and sends it to the database. The database will return a package containing any new data relevant to the users new position, including hot spots trying to infect the user.

## Requirements Trace

12.1, 12.3, 13.1, 13.2

## Involved Actors

Wall Clock, User

## Preconditions

* Timer has started
* System has access to GPS
* The user is in online mode

## Post conditions

* User is warned if in hotspots
* User location and infection status matches server

## Invariants

* User Virus’s stats don’t mutate
* Timer is always 30 seconds

# Flow of Events

## Basic Flow

This use case starts when the user as entered online mode

* + 1. Wall Clock Triggers
    2. System checks GPS for signal strength
    3. System polls GPS for coordinates
    4. System sends coordinates to database (User is unaware of update)
    5. Wall Clock Restarts

## Alternate Course – User is in a hotspot

This use case starts when the user has entered online mode and the update timer has started. When the user’s location is updated and they are in a hotspot, the system will warn them of possible infection

* + 1. Wall Clock Triggers
    2. System checks GPS for signal strength
    3. System polls GPS for coordinates
    4. System sends coordinates to database
    5. User is warned they are in a hotspot
    6. Users confirms warning message
    7. Wall Clock restarts

# Extension Points - None

# Scenarios

## Happy Day

Assumptions: Wall Clock – Timer, User – Kyle

Mode Type: Online

Signal Strength: GOOD\_GPS\_SIGNAL

Steps:

* + 1. Timer Triggers
    2. System checks for good signal strength
    3. System polls GPS for coordinates
    4. System sends coordinates to database
    5. Timer Restarts

## Rainy Day 1 – Too little signal strength

Assumptions: Wall Clock – Timer, User – Kyle

Mode Type: Online

Signal Strength: LOW\_GPS\_ABSOLUTE

Steps:

* + 1. Kyle selects instant spread from his virus
    2. System checks for good signal strength
    3. System indicates poor signal strength to Kyle
    4. System alerts Kyle that it will be leaving online mode
    5. Kyle confirms the system alert

## Happy Day Alternate Course: User is in a hotspot

Assumptions: Wall Clock – Timer, User – Kyle

Mode Type: Online

Signal Strength: GOOD\_GPS\_SIGNAL

Steps:

* + 1. Timer Triggers
    2. System checks GPS for signal strength
    3. System polls GPS for coordinates
    4. System sends coordinates to database
    5. Kyle is warned he is in a hotspot
    6. Kyle confirms warning message
    7. Timer restarts