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| Outbreak Smartphone App for iPhone  Use Case: Alchemy |

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Use Case: Alchemy

# Alchemy

## Brief Description

This use case allows the user to play the alchemy mini-game to acquire materials for creating vaccines. Items are put into a pot and mixed together in certain combinations to obtain other items.

## Requirements trace

Offline somewhere

## Involved actors

iPhone User

## Preconditions

The system interface is at the “offline” screen

## Postconditions

Phone goes back to “offline” section

## Invariants

Combination formula for ingredients

# FLOW EVENTS

## Basic flow

This use case starts when the user presses the play alchemy button in offline mode.

* + 1. User presses interface button on the iPhone to play alchemy
    2. The iPhone connects to the web server
    3. The iPhone sends the device id to the web server
    4. The web server retrieves the player’s inventory from the database
    5. The user mixes and plays the alchemy mini-game and presses the mix button
    6. The game yields items from a given recipe formula
    7. iPhone sends new inventory items to web server
    8. web server updates inventory in the database
    9. the user sees a “successful combination” or “combination failure” and the items lost or created

# Extension Points – None

# Scenarios

## Happy day

Assumptions: User – Sean

Steps:

* + 1. Sean Presses the interface button on the iPhone to play alchemy
    2. The iPhone connects to the web server
    3. The iPhone sends Sean’s phone id to the web server
    4. The web server retrieves Sean’s inventory from the database
    5. Sean mixes up what he thinks is a good recipe for curing his current viral infection and presses brew
    6. The game yields Sean a potion to cure his current infection
    7. The iPhone sends the new inventory item to the web server
    8. The webserver updates Sean’s inventory on the database with the current one
    9. Sean sees a “successful Combination” screen with the item created

## Rainy Day

Assumptions: User – Sean

Steps:

* + 1. Sean Presses the interface button on the iPhone to play alchemy
    2. The iPhone connects to the web server
    3. The connection cannot be established
    4. The app displays signal strength recommends relocation

## Alternatives