

# TRANSACTION PAGES

Making Angel do “cool stuff”™

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# [number]

GetCity

Page # 1001

[Edit Name / Page#](#)

Site Commands — What callers say or press to access this page from anywhere in your Voice Site.

Say

Press

Main

No Input

No Match

Confirmation

ASR Settings

Advanced Options

Initial Prompts

☐ What city would you like the weather for?

Delete

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

Response Type

Keyword

Store In Variable

GetCity

[Edit Variables](#)

The system will store the text entered in the Save Value field when the corresponding keyword is spoken or touch-tone sequence is pressed.

<input type="checkbox"/> Say	Press	Save Value
<input type="checkbox"/> new york	<input type="text"/>	new york
<input type="checkbox"/> manhattan	<input type="text"/>	manhattan
<input type="checkbox"/> bronx	<input type="text"/>	bronx
<input type="checkbox"/> queens	<input type="text"/>	queens
<input type="checkbox"/> brooklyn	<input type="text"/>	brooklyn
<input type="checkbox"/> staten island	<input type="text"/>	staten island

Delete

Add Keywords:

1

5

10

☐ **Allow Multiple Choice** — Enable callers to answer with a multi-keyword response.  
(Example: "pepperoni, sausage and extra cheese")

After response, go to

1002 - LameWeather

[Use Multiple Destinations](#)

Friday, March 18, 2011

# [number]

- GOAL: Leverage someone else's work to make yours awesome.

# Don't Panic

- Angel really *can* do interesting things
- Class focus is design, not technical ability
- Proofs of concept/Stubbing is okay
- *DESIGN*

# Example: Weather

- Let's make one

# [number]

- GOAL: Leverage someone else's work to make yours awesome.
- Did we succeed?

# Angel

- Angel is great in **isolation**.....
- What if it talked to the rest of the **world**?

# Angel

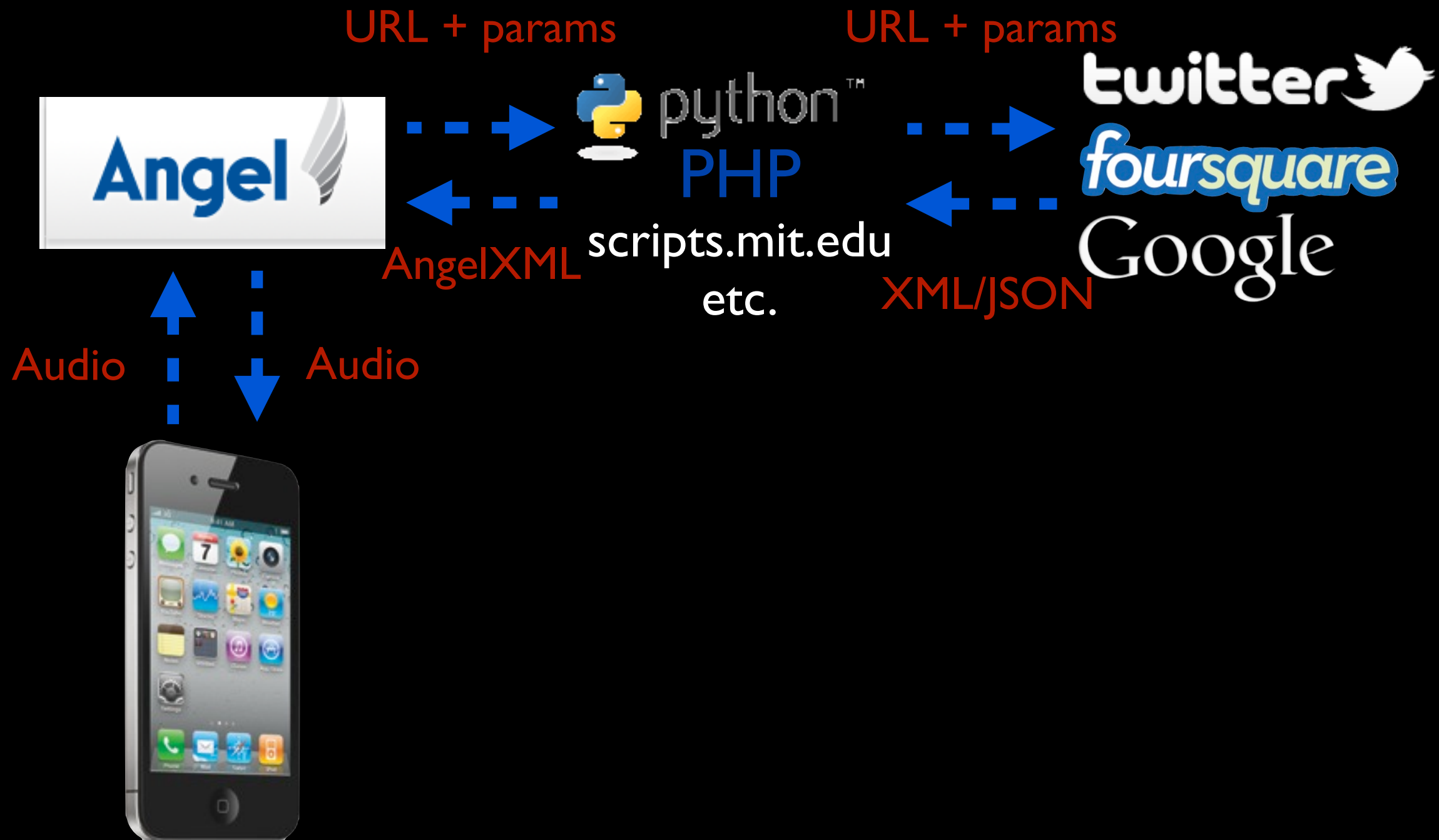
- Angel's strong suits:
  - Speech recognition (arguably)
  - User experience construction
  - Fast development
- Angel's weaknesses:
  - Everything else



# Solutions

- Angel knows its limitations
- Transaction pages allow for extended functionality
  - Communicate with websites
  - Communicate with devices
  - Store and retrieve tons of data
  - More complex logic
  - Other cool stuff

# How it works



# The Data

```
<xml_api_reply version="1">
  <weather module_id="0" tab_id="0" mobile_row="0" mobile_zipped="1" row="0">
    <forecast_information>
      <city data="Cambridge, MA"/>
      <postal_code data="02139"/>
      <latitude_e6 data=""/>
      <longitude_e6 data=""/>
      <forecast_date data="2011-03-15"/>
      <current_date_time data="2011-03-15 19:19:32 +0000"/>
      <unit_system data="US"/>
    </forecast_information>
    <current_conditions>
      <condition data="Partly Cloudy"/>
      <temp_f data="43"/>
      <temp_c data="6"/>
      <humidity data="Humidity: 54%"/>
      <icon data="/ig/images/weather/partly_cloudy.gif"/>
      <wind_condition data="Wind: SE at 11 mph"/>
    </current_conditions>
    <forecast_conditions>
      ...
    </forecast_conditions>
  </weather>
</xml_api_reply>
<\xwJ'9bJ'LebJ\>
  <\M69fpu6L>
    <\t0L6C92f'couqJfTou2>
      ...
    </...>
  </...>
</...>
```

# The Code

```
#!/usr/bin/python
import urllib2
from lxml import etree as ET
import cgi

wbURL = "http://www.google.com/ig/api?weather="

def toAngel(zipcode):
    weatherdata = urllib2.urlopen(wbURL + zipcode)
    weather = ET.parse(weatherdata).find('weather')
    condition = weather.find('current_conditions').find('condition').get('data')
    curtemp = weather.find('current_conditions').find('temp_f').get('data')
    return condition + ", with a temperature of " + curtemp + " degrees."

print "Content-Type: text/html"
print
inputs = cgi.FieldStorage()
z = inputs['zipcode'].value
print toAngel(z)

bLpuf foyudεf(z)
z = tубnfε[,zтbcoqε,]*Λεfпε
тубnfε = cдт*Етεfqq2foLεdε()
bLpuf
bLpuf ,couceuf-тλbe: cεxεLufεf,
```



# The Page: Overview

Title

Page Number

Universal Commands

Destination URL

URL Parameters

Dynamic Variables

Response Type

Destination (sometimes)

Secondary Prompts

Testing Options

The screenshot shows a web interface for configuring a 'New Transaction Page'. The breadcrumb trail at the top reads 'Site Builder > Voice Sites > Ray's Pizza # 200000111073 > New Transaction Page'. The main title is 'New Transaction Page' with a 'Page # 20' field to its right. Below this is a 'Site Commands' section with a description: 'What callers say or press to access this page from anywhere in your Voice Site.' It includes 'Say' and 'Press' input fields. A tabbed interface follows, with 'Transaction' selected, and others being 'Prompts', 'ASR Settings', and 'Advanced Options'. The 'Transaction' tab contains a note: 'Communication can be made secure by specifying a "https://" URL.' Below this is a 'URL' field containing 'http://', radio buttons for 'POST' (selected) and 'GET', and a 'Run Test' link. A 'Parameters' section states 'There are no parameters defined.' and includes 'Add Parameter' buttons for 'Variable' and 'Constant'. Under 'Pre-Built Applications', there is a button for 'Send Survey Responses' and a checkbox for 'Submit all Variables defined in any AngelXML document'. The 'Interpret HTTP Response As' section has a dropdown menu set to 'Text-to-Speech' and a 'then go to' dropdown set to 'Home Page'. At the bottom are 'Save' and 'Cancel' buttons. Red arrows from the labels on the left point to the following elements: 'Title' points to the main title; 'Page Number' points to the 'Page # 20' field; 'Universal Commands' points to the 'Say' and 'Press' fields; 'Destination URL' points to the 'URL' field; 'URL Parameters' points to the 'Add Parameter' buttons; 'Dynamic Variables' points to the 'Send Survey Responses' button; 'Response Type' points to the 'POST' radio button; 'Destination (sometimes)' points to the 'then go to' dropdown; 'Secondary Prompts' points to the 'Interpret HTTP Response As' dropdown; and 'Testing Options' points to the 'Run Test' link.

(I promise it's less complicated than it looks)

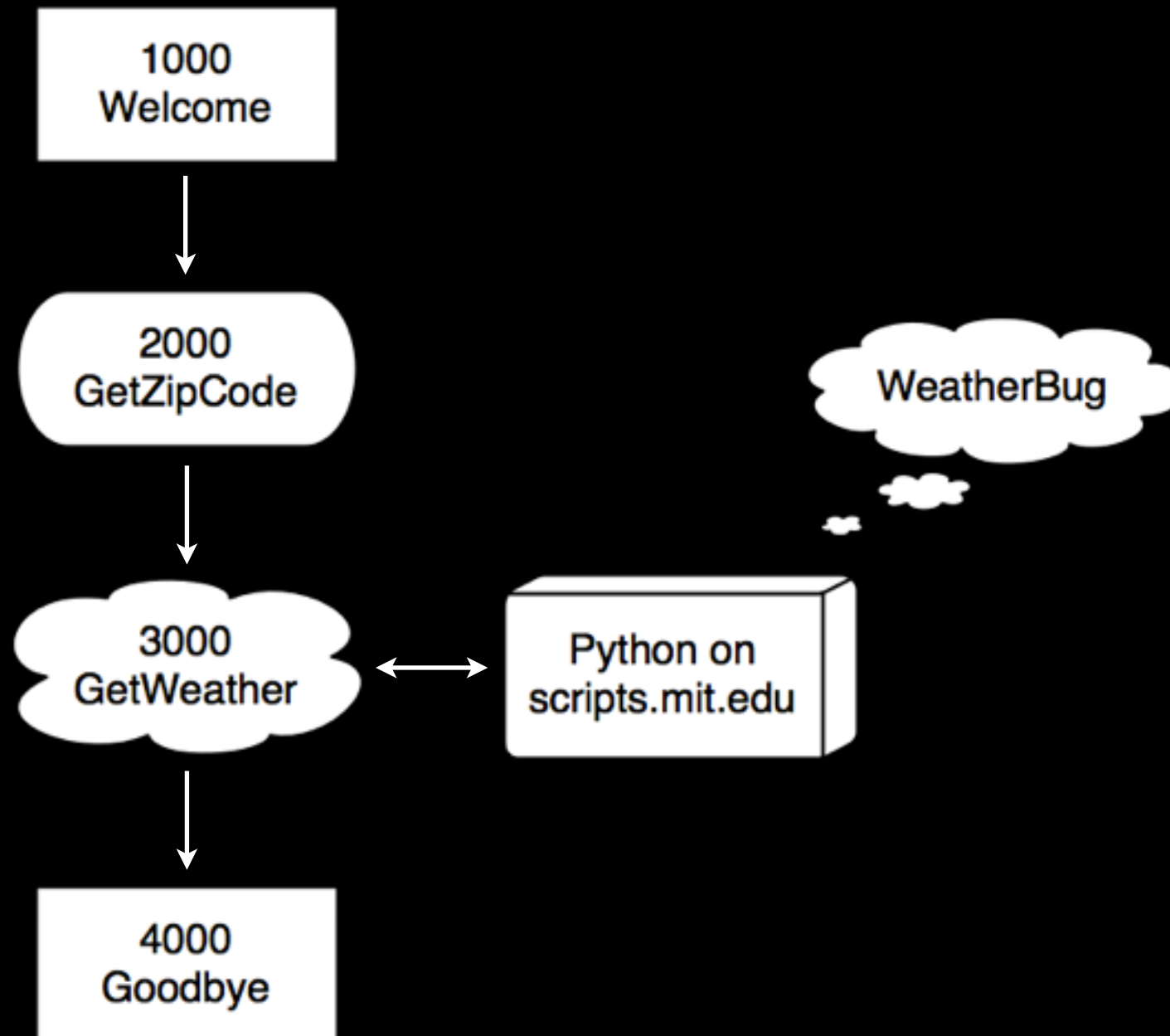
# Specifics

- HTTP Request to a specific URL
- Variable and constants sent as parameters
- Acceptable response types:
  - TTS
  - Audio file
    - Internal (relative)
    - External (Absolute)
  - Link to Voice Page
  - Phone Number
  - AngelXML (tricky, but useful)

# Specifics

- PHP, Python, Perl, etc....
- Use `scripts.mit.edu` to make your life easier
  - <http://scripts.mit.edu/start/>
  - Easy, step by step directions
  - Very quick response time

# State Diagram





# Logic Pages

- What if your application's behavior could change depending on some condition?
- It Can!
- Condition (If statements)
- Assignment (new variable  $b = a$ )
- Transformation (existing variable  $a = a + 1$ )

# Example: Santa

**CheckList** Page # 2 [Edit Name / Page#](#)

**Site Commands** — What callers say or press to access this page from anywhere in your Voice Site.

Say  Press

**Main** Advanced Options

**Variable Operations – [Operation Rules](#)**

☐ NumTimesCheck = NumTimesCheck add 1

**Decide what to do**

☐ If ☐ TypeOfChild equals Nice AND ☐ NumTimesCheck equals 1

Perform the following Operation(s):

☐ WhatToGive = Constant Not sure yet...

go to 2 - CheckList

OR

☐ If ☐ TypeOfChild equals Nice AND ☐ NumTimesCheck equals 2

Perform the following Operation(s):

☐ WhatToGive = Constant Present

go to 1 - PackBag

OR

go to 1 - PackBag

☐ WhatToGive = Constant Present

Perform the following Operation(s):

☐ NumTimesCheck equals 5

OR

☐ If ☐ TypeOfChild equals Naughty AND ☐ NumTimesCheck equals 1

Perform the following Operation(s):

☐ WhatToGive = Constant Not sure yet...

go to 2 - CheckList

OR

☐ If ☐ TypeOfChild equals Naughty AND ☐ NumTimesCheck equals 2

Perform the following Operation(s):

☐ WhatToGive = Constant COAL

go to 1 - PackBag

OTHERWISE

go to 2 - CheckList

Delete Copy Merge Up Down Add: Condition Assignment Transformation

Delete Copy Merge Up Down Add: Condition Assignment Transformation

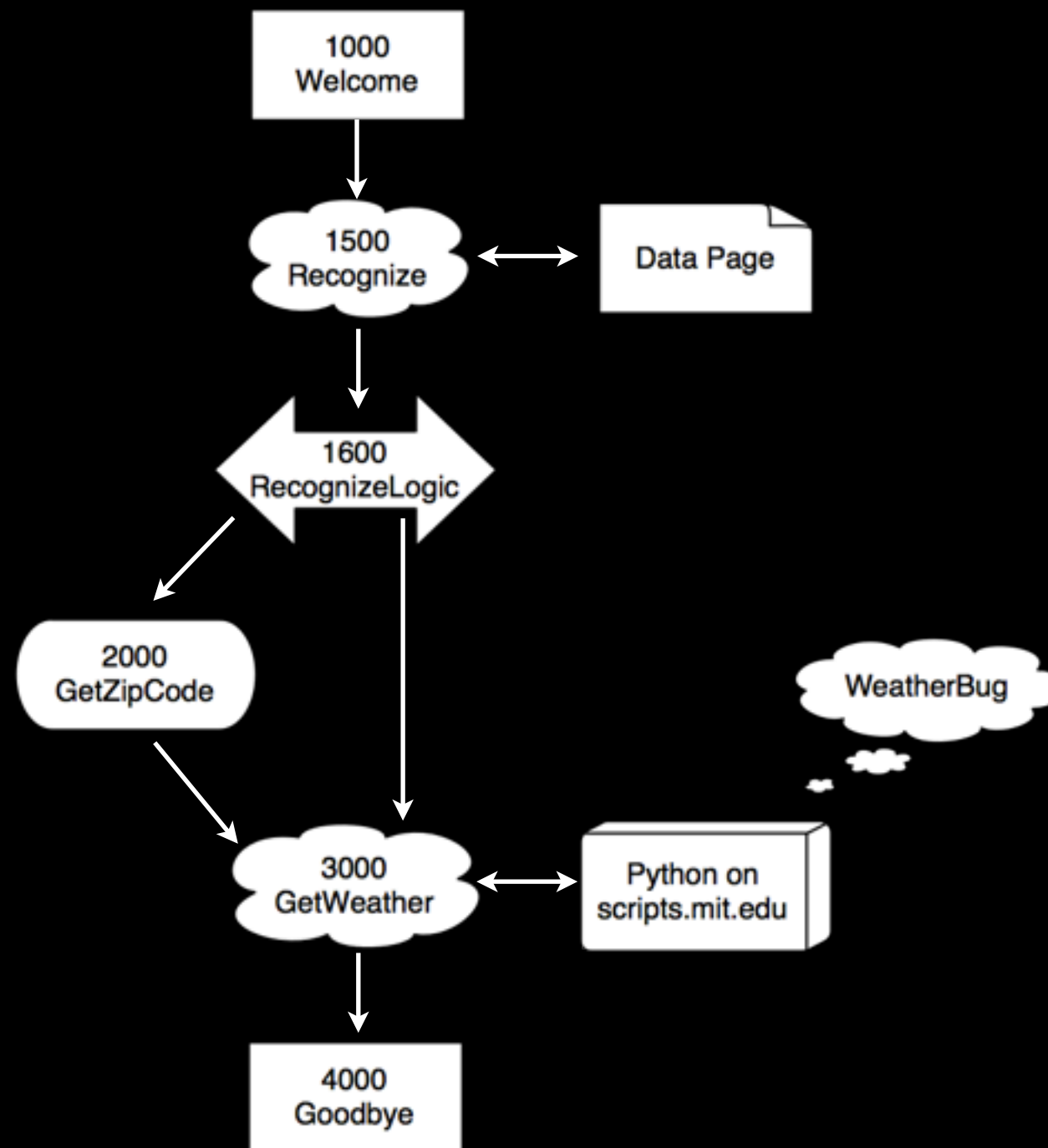
go to 2 - CheckList

OTHERWISE

# Example 2: Weather++

- New feature request from upper management
  - Now need to remember zip codes
- Use Question, Data, and Transaction pages to solve it!

# State Diagram



# [number]

- Transaction pages let you do awesome stuff
- Logic pages are quite helpful in more complicated apps
- This class is about design not coding