

Angel Review

Did it get easier?

Problem

Design!?!?!

Multiple Toppings on Question Pages?

Logic Pages?

Data Pages?

Variables?

Types Of Pages

Message Page

Question Page

Data Page

Voicemail Page

Logic Page

Variables

Message Page

What does it do?

Reads text-to-speech prompts

Can play stored variables

What does it do?

Relays a Message

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

No Input

No Match

ASR Settings

Advanced Options

Initial Prompts



Delete

Up

Down

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

Actions

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

No Input

No Match

ASR Settings

Advanced Options

Initial Prompts



Delete

Up

Down

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

Actions

What does it do?

Reads text-to-speech prompts

Can play stored variables

Can record users response to questions

Stores users response to questions

What does it do?

Asks a question, records a response as a variable

Site Commands

What callers 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

Hey there! If you want to know what the weather's like, just tell me, what's your zipcode?



Delete

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

Response Type

Number

Store in Variable

zipcode

[Edit Variables](#)

Callers can say or enter a numeric, touch-tone response. [Sample Responses](#)

- | Type | Say | Save Value |
|---|--|--|
| <input type="radio"/> Natural Number | (eg: "twenty five") | (eg: 25) |
| <input checked="" type="radio"/> Digit Sequence | (eg: "two five") | (eg: 25) |
| <input checked="" type="checkbox"/> Limit range: from | <input type="text" value="5"/> digit(s) long to, | <input type="text" value="5"/> digit(s) long (Max: 30) |

Add Page Commands

After a response, go to

Site Commands

What callers 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

Hey there! If you want to know what the weather's like, just tell me, what's your zipcode?



Delete

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

Response Type

Number

Store in Variable

zipcode

[Edit Variables](#)

Callers can say or enter a numeric, touch-tone response. [Sample Responses](#)

- | Type | Say | Save Value |
|---|--|--|
| <input type="radio"/> Natural Number | (eg: "twenty five") | (eg: 25) |
| <input checked="" type="radio"/> Digit Sequence | (eg: "two five") | (eg: 25) |
| <input checked="" type="checkbox"/> Limit range: from | <input type="text" value="5"/> digit(s) long to, | <input type="text" value="5"/> digit(s) long (Max: 30) |

Add Page Commands

After a response, go to

Site Commands

What callers 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

Hey there! If you want to know what the weather's like, just tell me, what's your zipcode?



Delete

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

Response Type

Number

Store in Variable

zipcode

[Edit Variables](#)

Callers can say or enter a numeric, touch-tone response. [Sample Responses](#)

- | Type | Say | Save Value |
|---|--|--|
| <input type="radio"/> Natural Number | (eg: "twenty five") | (eg: 25) |
| <input checked="" type="radio"/> Digit Sequence | (eg: "two five") | (eg: 25) |
| <input checked="" type="checkbox"/> Limit range: from | <input type="text" value="5"/> digit(s) long to, | <input type="text" value="5"/> digit(s) long (Max: 30) |

Add Page Commands

After a response, go to

Site Commands

What callers 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

Hey there! If you want to know what the weather's like, just tell me, what's your zipcode?



Delete

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

Response Type

Number

Store in Variable

zipcode

[Edit Variables](#)

Callers can say or enter a numeric, touch-tone response. [Sample Responses](#)

- | Type | Say | Save Value |
|---|--|--|
| <input type="radio"/> Natural Number | (eg: "twenty five") | (eg: 25) |
| <input checked="" type="radio"/> Digit Sequence | (eg: "two five") | (eg: 25) |
| <input checked="" type="checkbox"/> Limit range: from | <input type="text" value="5"/> digit(s) long to, | <input type="text" value="5"/> digit(s) long (Max: 30) |

Add Page Commands

After a response, go to

Site Commands

What callers 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

Hey there! If you want to know what the weather's like, just tell me, what's your zipcode?



Delete

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

Response Type

Number

Store in Variable

zipcode

[Edit Variables](#)

Callers can say or enter a numeric, touch-tone response. [Sample Responses](#)

- | Type | Say | Save Value |
|---|--|--|
| <input type="radio"/> Natural Number | (eg: "twenty five") | (eg: 25) |
| <input checked="" type="radio"/> Digit Sequence | (eg: "two five") | (eg: 25) |
| <input checked="" type="checkbox"/> Limit range: from | <input type="text" value="5"/> digit(s) long to, | <input type="text" value="5"/> digit(s) long (Max: 30) |

Add Page Commands

After a response, go to

Voicemail Page

What does it do?

Asks a question, records a response as an audio file

MAIN

NO INPUT

NO MATCH

CONFIRMATION

ASR SETTINGS

Initial Prompts



Delete

Add Prompt:

Audio

Text-to-Speech

Variable

Using Variables

Mailbox — Destination for recordings. Recordings are available for **30 days**.

Inbox

Response Storage — Keep a link (URL) to the recording in a Variable.

Address Edit Variables

Action — After the caller leaves their recording.

Go to Designated Page

8 - 750_getDeliveryTime

View

© Angel.com Inc. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/fairuse>.

Variables

What do they do?

Store users responses

Allows responses to be used in the system

Can be manipulated

What do they do?

Enable re-use

SITE BUILDER

- Site Overview
- Site Properties
- Site Variables
- Site Commands
- System Commands
- ASR Settings

PHONE NUMBER(S)

Assign Number

Site Builder > Voice Sites > Weather 3 > Site Variables

Site Variables

Variables are used to represent dynamic data in the system. Responses from Question Pages, Voicemail Pages and Lookup/Name/Address Capture Pages are stored into variables. Variables can be replayed in prompts and submitted in Transaction Pages and Data Pages. [Using Variables](#)

<input type="checkbox"/>	VARIABLE NAME	INITIAL VALUE	PAGES USED	LIST	PRIVATE
<input type="checkbox"/>	<input type="text" value="_100_GetZipCode"/>	<input type="text"/>	<input type="text" value="🔍"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="text" value="needJacket"/>	<input type="text"/>	<input type="text" value="🔍"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="text" value="temperature"/>	<input type="text"/>	<input type="text" value="🔍"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="text" value="zipcode"/>	<input type="text"/>	<input type="text" value="🔍"/>	<input type="checkbox"/>	<input type="checkbox"/>

Delete

Add Site Variables:

SAVE

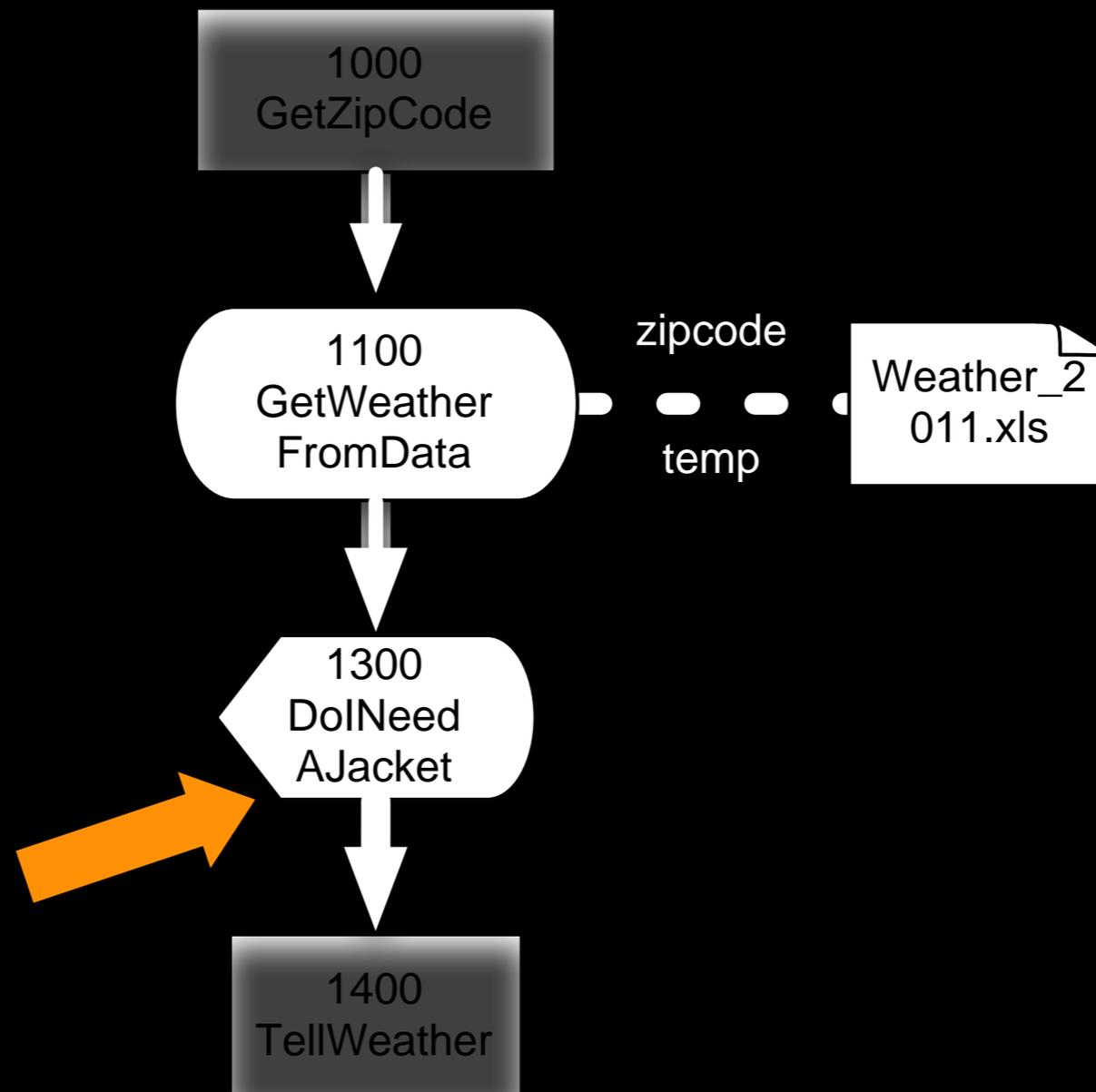
SAVE & EXIT

EXIT

© Angel.com Inc. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/fairuse>.

Logic Pages

Example: Weather 2



Logic Pages!

Logic Pages!

Logic Pages!

- Condition **And/Or/If statements:**

If temperature is <60 say “Bring a jacket”

Logic Pages!

- Condition **And/Or/If statements**:
If temperature is <60 say “Bring a jacket”
- Assignment of **new variable**:
temperature = a , play “The temperature is $<a>$ ”

Logic Pages!

- Condition **And/Or/If statements**:
If temperature is <60 say “Bring a jacket”
- Assignment of **new variable**:
temperature = a , play “The temperature is $<a>$ ”
- Transformation **change existing variable** $a = a + 1$

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Advanced Options

Decide what to do - [Operation Rules](#)

If temperature less than or equal 60

Perform the following Operation(s):

DoINeedAJacket = Constant Make sure to bring a jacket

CONTINUE

If temperature greater than 60

Perform the following Operation(s):

DoINeedAJacket = Constant You can leave the jacket

CONTINUE

go to 1300 - TellWeather

Delete Copy Merge Up Down Add: Condition Assignment Transformation

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Advanced Options

Build a Rule

If temperature 60

Perform the following Operation(s):

DoINeedAJacket Constant

If temperature 60

Perform the following Operation(s):

DoINeedAJacket Constant

go to

Add:

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Advanced Options

Build a list of Operation Rules

- If temperature 60
- DoINeedAJacket Constant
- If temperature 60
Perform the following Operation(s):
 - DoINeedAJacket Constant
- go to

Delete Copy Merge Up Down Add: Condition Assignment Transformation

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Advanced Options

Build a list of Operation Rules

If temperature 60

DoINeedAJacket Constant

If temperature 60

Perform the following Operation(s):

DoINeedAJacket Constant

go to

Delete Copy Merge Up Down Add **Condition** Assignment Transformation

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Advanced Options

Operation Rules

- If temperature \leq less than or equal to 60
- DoINeedAJacket = Constant Make sure to bring a jacket
- If temperature $>$ greater than 60
Perform the following Operation(s):
 - DoINeedAJacket = Constant You can leave the jacket
- go to 1300 - TellWeather

Add:

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

No Input

No Match

ASR Settings

Advanced Options

Initial Prompts

It's currently



temperature



Smart Play



at that location.



DoINeedAJacket



Smart Play



Thanks for calling!



Delete

Up

Down

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

Actions

End the Call



Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

No Input

No Match

ASR Settings

Advanced Options

Initial Prompts

- 
- 
- 
- 
- 

Delete

Up

Down

Add Prompt:

Audio

Text-to-Speech

Variable

[Using Variables](#)

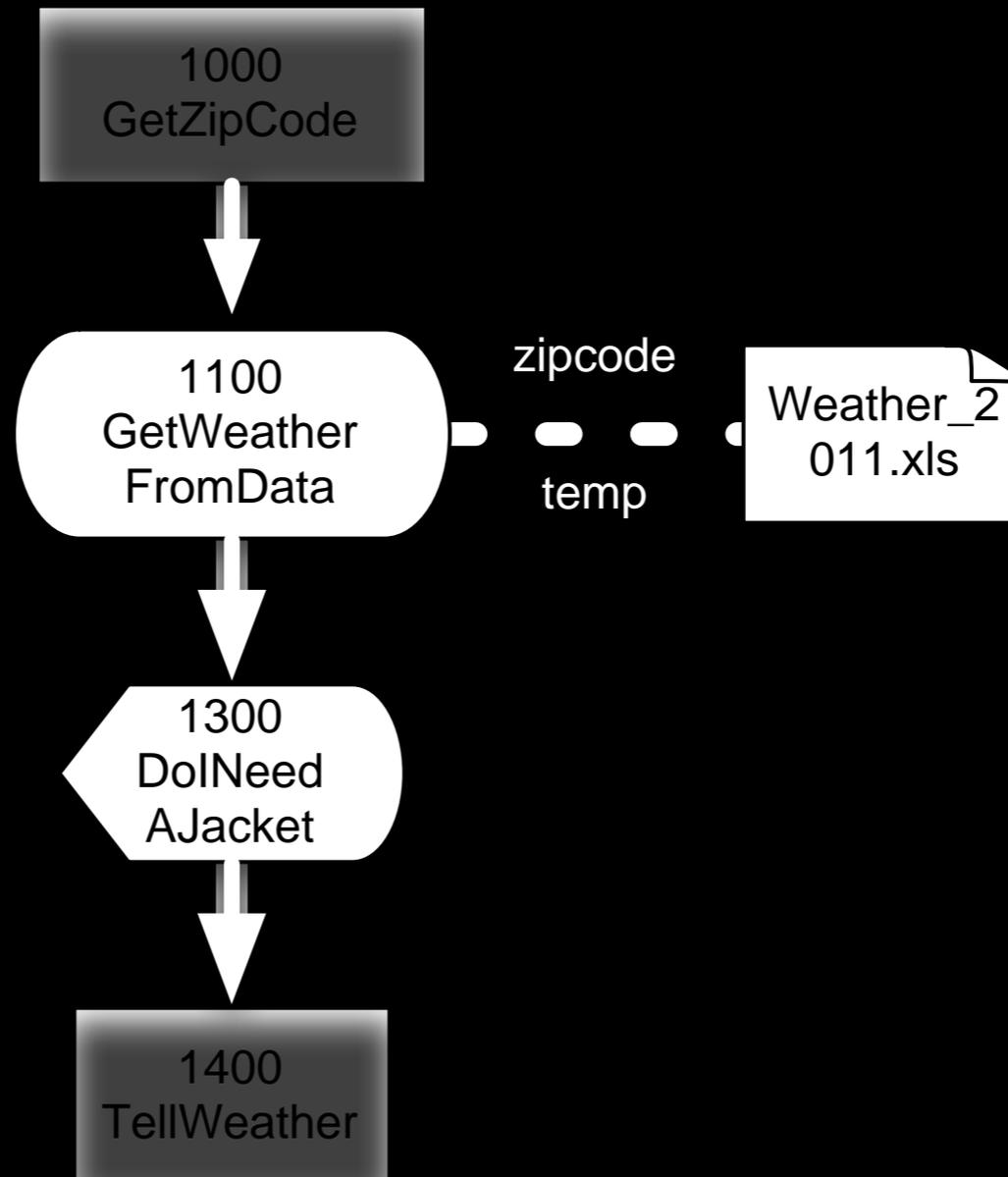
Actions

Data Pages

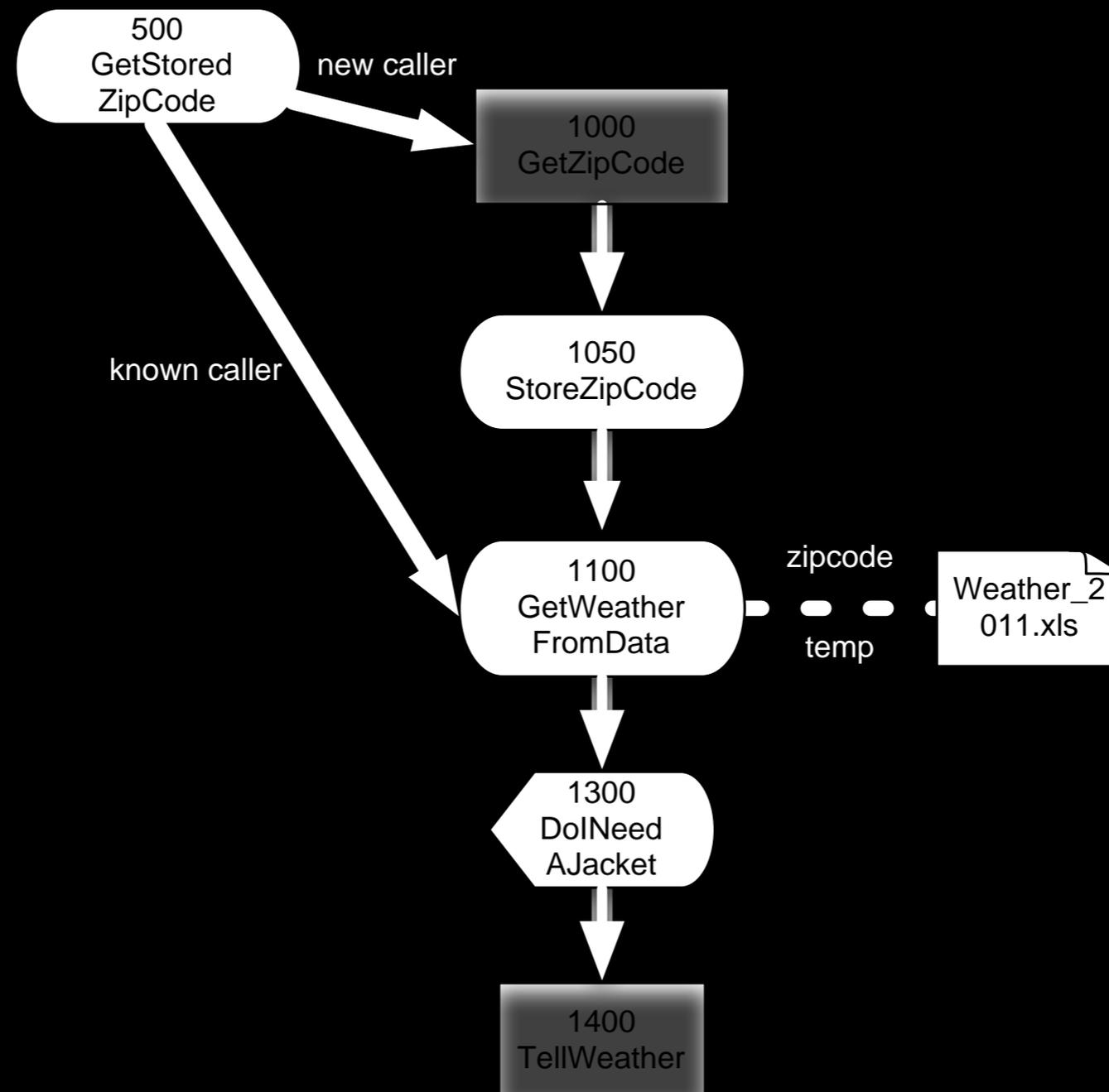
Data Pages (advanced)

- Two Kinds of Data Pages
 - Put Data In (*Coke/Pepsi*)
 - Take Data Out
- We'll need **both** (2 separate data pages) to identify users

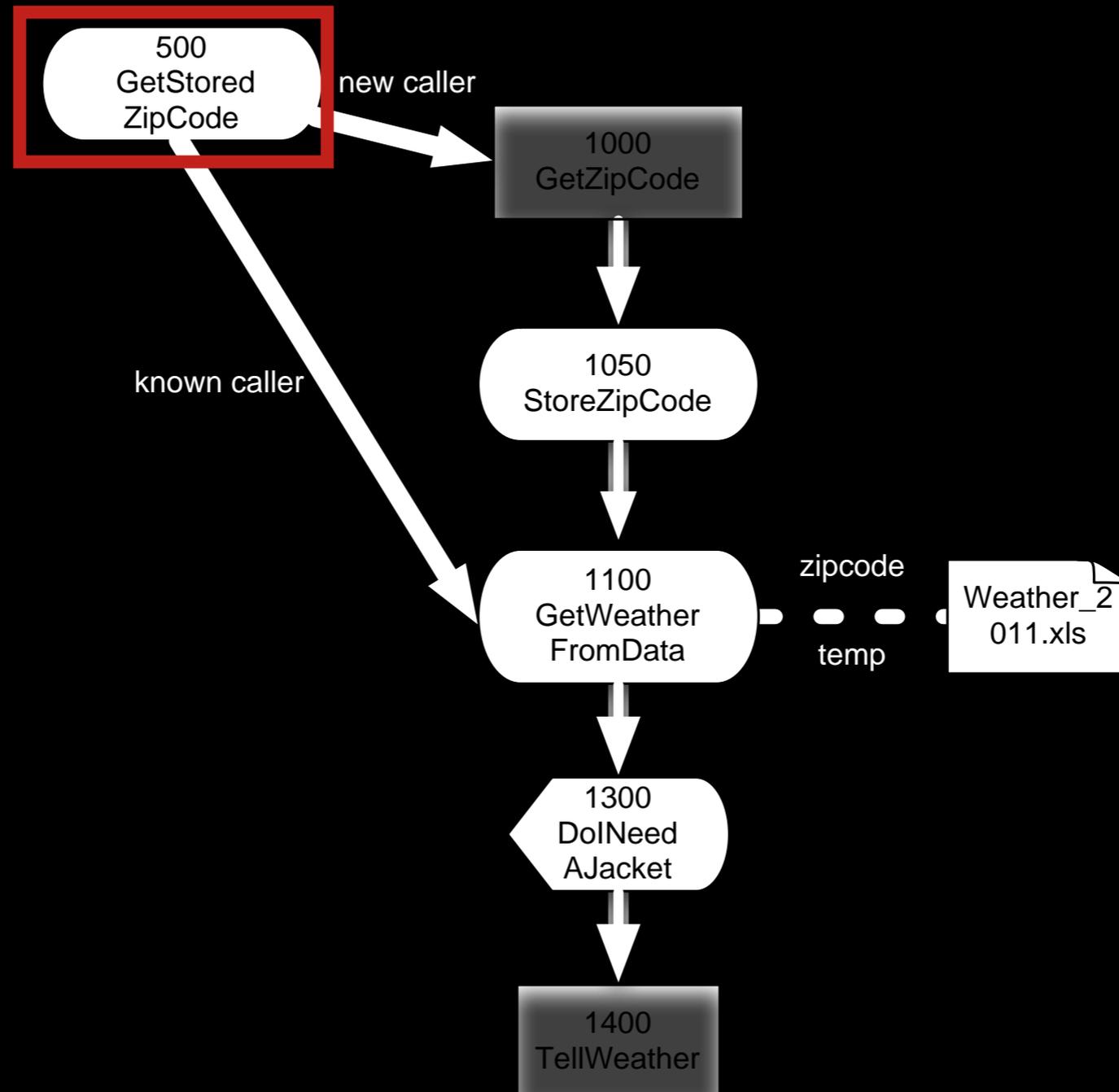
Old Call flow



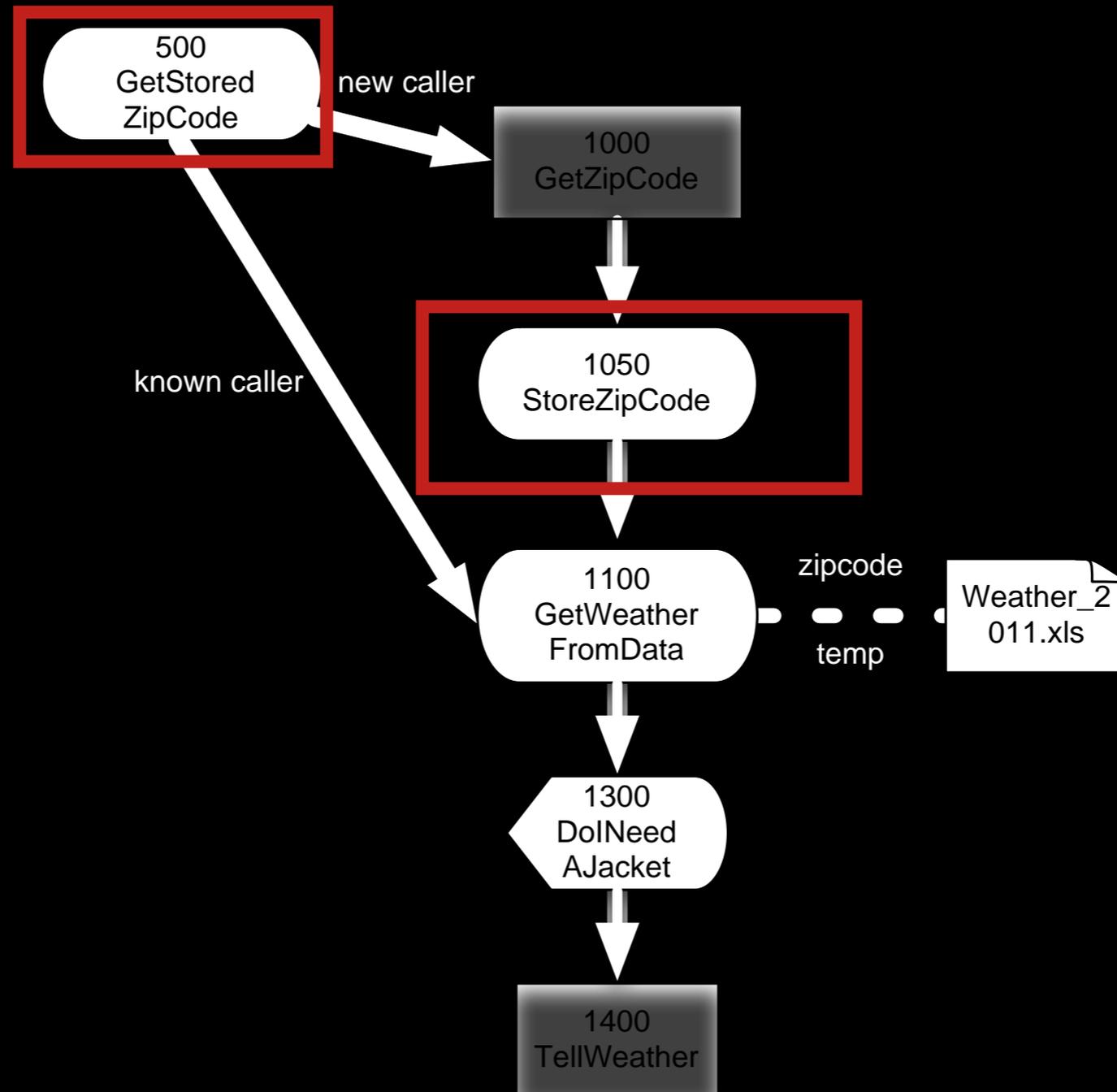
New Call flow



New Call flow



New Call flow



Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Prompts

Advanced Options

- Put Data In - Insert or update information.
- Get Data Out - Find and extract information.

Data File

[View](#) | [Edit](#) | [New](#)

Find the row of data where:

- Column
- matches Variable Test Value

[Delete](#) [Add Condition](#)

[Run Test](#)

Load Data – If a row is found, load its values into the following variables:

- Variable with value from Column
- with value from

[Delete](#)

If a row is found, go to

If no row is found, go to



Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Prompts

Advanced Options

- Put Data In - Insert or update information.
- Get Data Out - Find and extract information.

Data File

[View](#) | [Edit](#) | [New](#)

Find the row of data where:

Column

Variable

Test Value

matches

[Delete](#) [Add Condition](#)

[Run Test](#)

Load Data – If a row is found, load its values into the following variables:

Variable

Column

with value from

with value from

[Delete](#)

If a row is found, go to

If no row is found, go to



Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Prompts

Advanced Options

- Put Data In - Insert or update information.
- Get Data Out - Find and extract information.

Data File

[View](#) | [Edit](#) | [New](#)

Find the row of data where:

Column

Variable

Test Value

matches

[Delete](#) [Add Condition](#)

[Run Test](#)

Load Data – If a row is found, load its values into the following variables:

Variable

Column

with value from

with value from

[Delete](#)

If a row is found, go to

If no row is found, go to



Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Prompts

Advanced Options

- Put Data In - Insert or update information.
- Get Data Out - Find and extract information.

Data File

[View](#) | [Edit](#) | [New](#)

Find the row of data where:

Column

Variable

Test Value

matches

[Delete](#) [Add Condition](#)

[Run Test](#)

Load Data – If a row is found, load its values into the following variables:

Variable

Column

with value from

with value from

[Delete](#)

If a row is found, go to

If no row is found, go to



Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main

Prompts

Advanced Options

- Put Data In - Insert or update information.
- Get Data Out - Find and extract information.

Data File

[View](#) | [Edit](#) | [New](#)

Find the row of data where:

Column

Variable

Test Value

matches

[Delete](#) [Add Condition](#)

[Run Test](#)

Load Data – If a row is found, load its values into the following variables:

Variable

Column

with value from

with value from

[Delete](#)

If a row is found, go to

If no row is found, go to



Store User Data

1050_Store_Zip_Code Page # 1050 [Edit Name / Page#](#)

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main Prompts **Advanced Options**

Put Data In - Insert or update information. **Data File** Weather2011_Users.xls [View](#) | [Edit](#) | [New](#)

Get Data Out - Find and extract information.

The system will insert data into a new row [Update an existing row instead](#)

Insert this data:

<input type="checkbox"/> Variable		Column
<input type="checkbox"/> CallerID	into	Phone
<input type="checkbox"/> zip	into	Stored Zip

[Delete](#)

After inserting the row, go to 1100 - GetWeatherFromData

© Angel.com Inc. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/fairuse>.

Store User Data

CallerID
Variable: Set
for you!



1050_Store_Zip_Code Page # 1050 [Edit Name / Page#](#)

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main Prompts **Advanced Options**

Put Data In - Insert or update information. **Data File** Weather2011_Users.xls [View](#) | [Edit](#) | [New](#)

Get Data Out - Find and extract information.

The system will insert data into a new row [Update an existing row instead](#)

Insert this data:

<input type="checkbox"/> Variable		Column
<input type="checkbox"/> CallerID	into	Phone
<input type="checkbox"/> zip	into	Stored Zip

[Delete](#)

After inserting the row, go to 1100 - GetWeatherFromData

© Angel.com Inc. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/fairuse>.

Get Stored User Data

500_Get_Stored_Zip_Code Page # 500 [Edit Name / Page#](#)

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Main Prompts **Advanced Options**

Put Data In - Insert or update information. **Data File**
 Get Data Out - Find and extract information. Weather2011_Users.xls [View](#) | [Edit](#) | [New](#)

Find the row of data where:

Column Variable Test Value
 Phone matches CallerID

[Delete](#) [Add Condition](#) [Run Test](#)

Load Data – If a row is found, load its values into the following variables:

Variable Column
 zip with value from Stored Zip

[Delete](#) [Add](#)

If a row is found, go to

If no row is found, go to

© Angel.com Inc. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/fairuse>.

Angel

Angel

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

Angel

- Angel's strong suits:
 - Speech recognition (arguably)
 - User experience construction
 - Fast development
- Angel's weaknesses:
 - Communicating with the outside world

Solutions

Solutions

- Angel knows it's limitations

Solutions

- Angel knows it's 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**

Transaction Pages

Transaction Page

↔ 1101_Get_Weather_From_Google Page # 1101 [Edit Name / Page#](#)

Site Commands

What callers press to access this page from anywhere in your Voice Site.

Say

Press

Transaction Prompts ASR Settings **Advanced Options**

Communication can be made secure by specifying a "https://" URL.
Private variables values will be shown only with the use of https

URL POST GET

Parameters

<input type="checkbox"/> Type	Parameter Name [?]	Parameter Value [?]	Test Value [?]
<input type="checkbox"/>	X zip	zip	02142

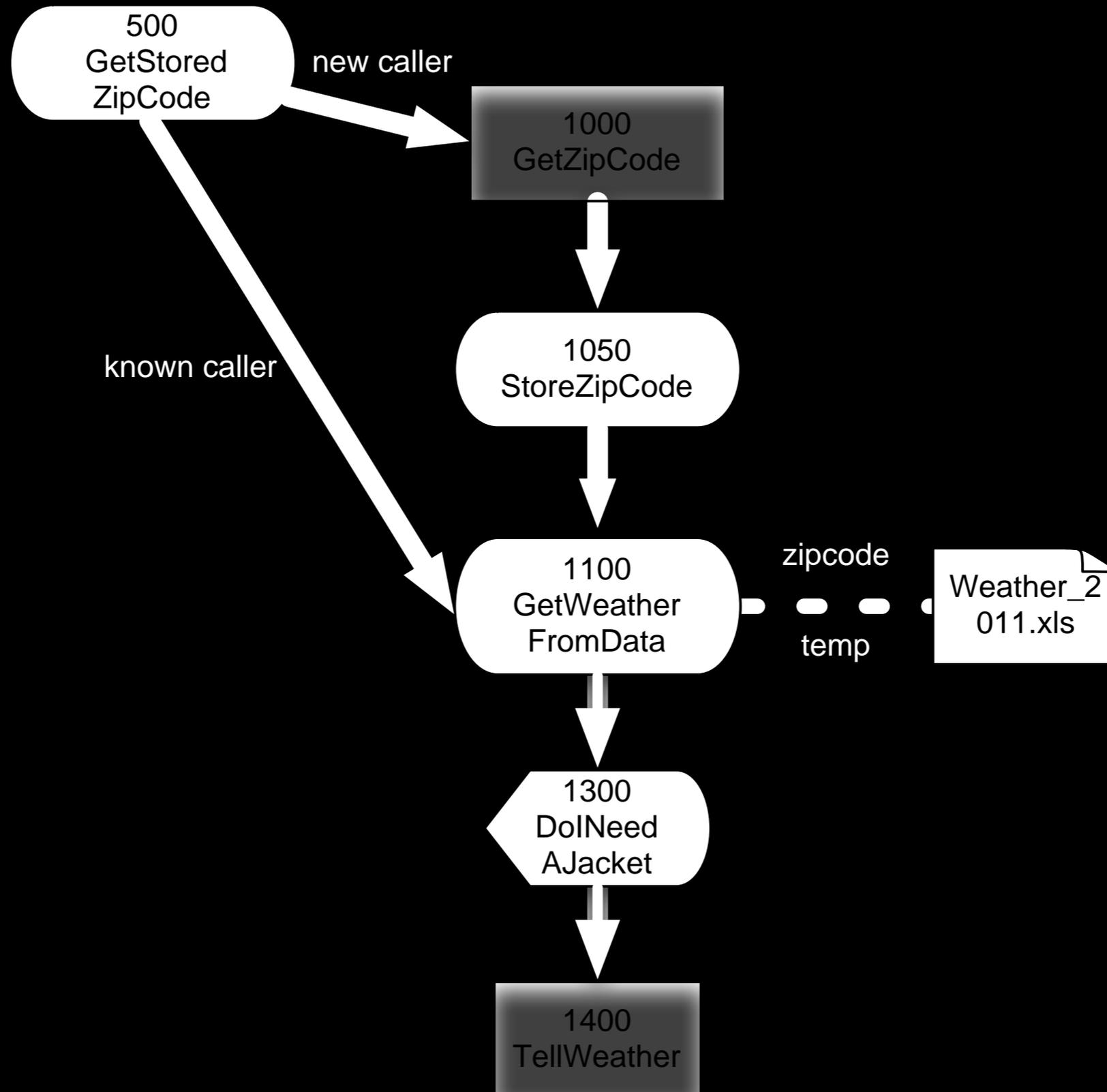
Add Parameter:

Pre-Built Applications:

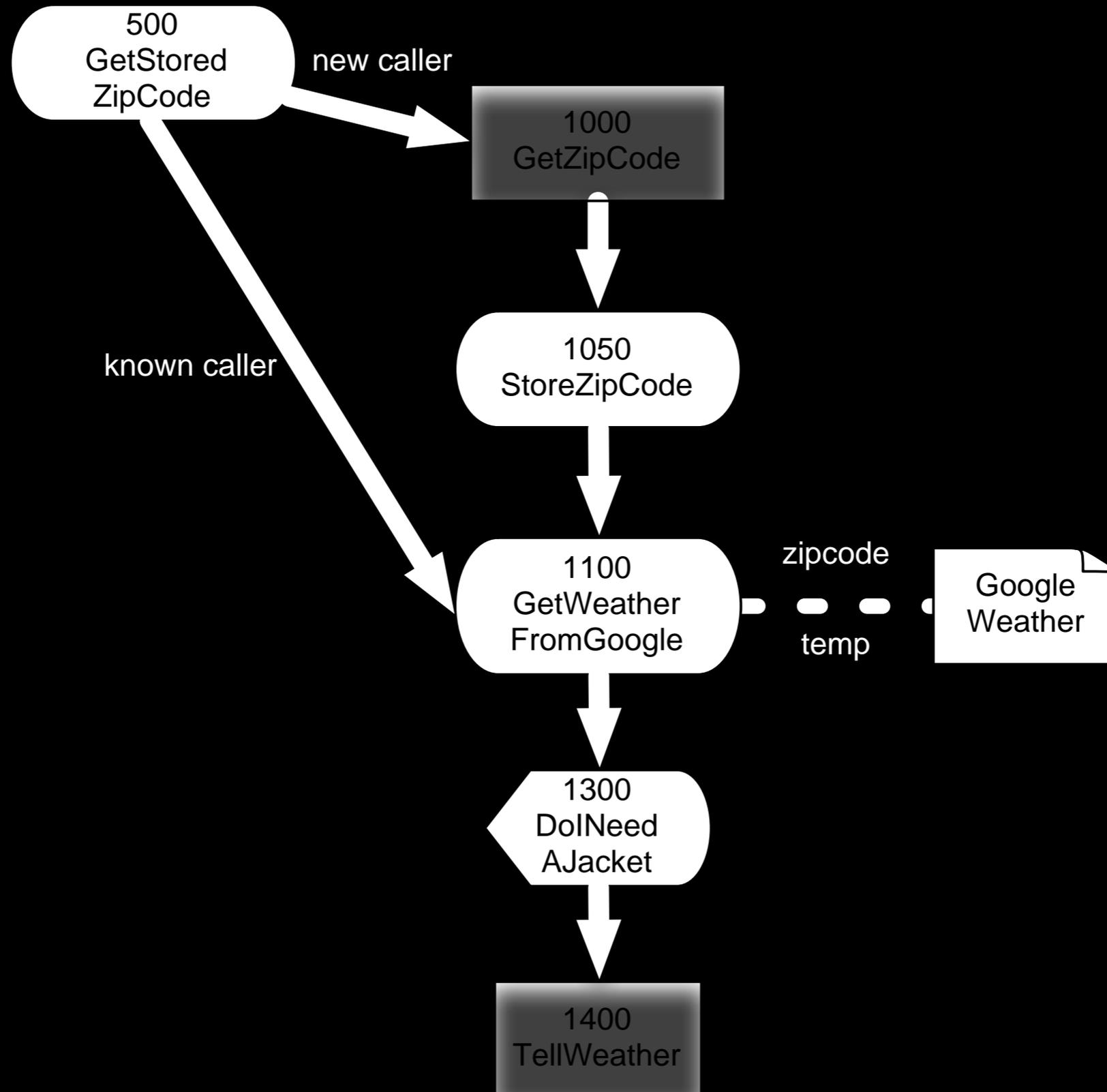
Submit all Variables defined in any AngelXML document

Interpret HTTP Response As [?]

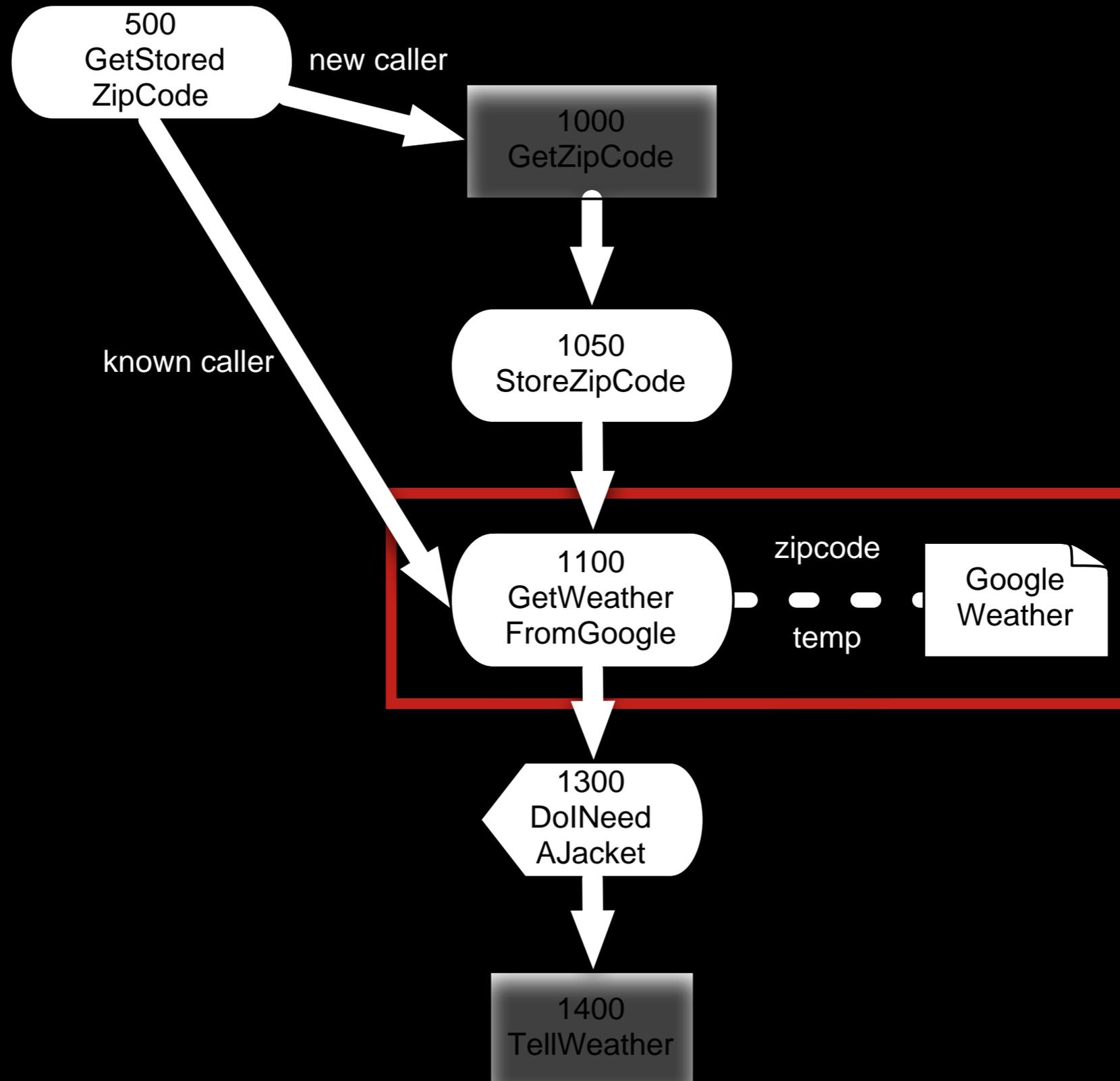
Old Call flow



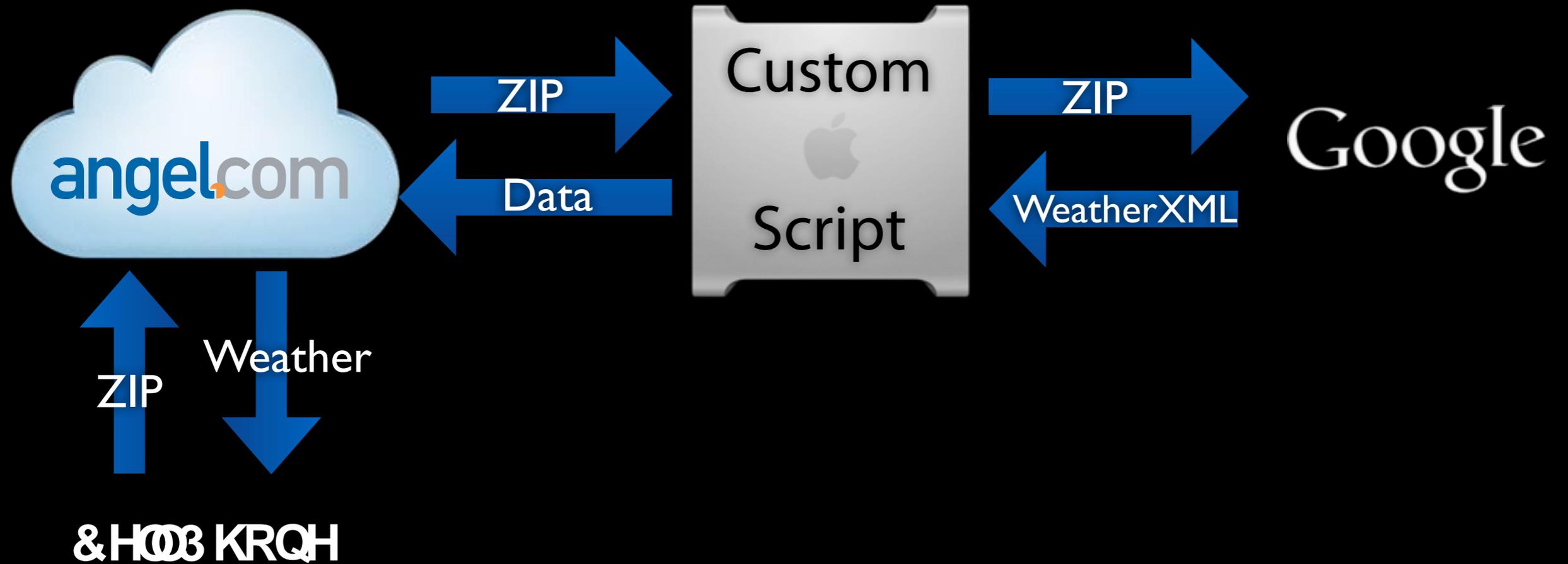
New Call flow



New Call flow



How it works



Specifics

Specifics

- HTTP Request to a specific **URL**

Specifics

- HTTP Request to a specific **URL**
- Variable and constants sent as **parameters**

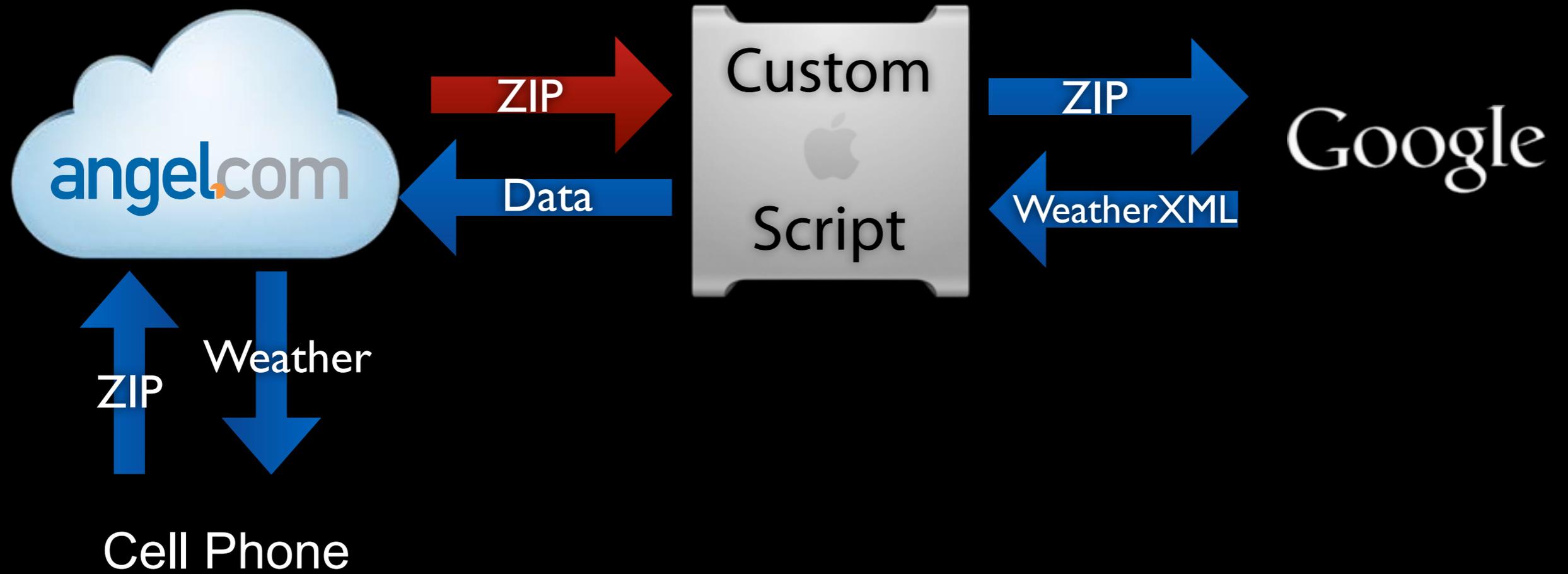
Specifics

- HTTP Request to a specific **URL**
- Variable and constants sent as **parameters**
- Acceptable response types:
 - Text-To-Speech
 - Audio file
 - Internal (relative)
 - External (Absolute)
 - Link to Voice Page
 - Phone Number
 - AngelXML

Running the Code

- PHP, Python, Perl, etc....

How it works



MIT OpenCourseWare
<http://ocw.mit.edu>

ESD.051J / 6.902J Engineering Innovation and Design
Fall 2012

For information about citing these materials or our Terms of Use, visit: <http://ocw.mit.edu/terms>.