

Introduction to JULIE

(version 1.8.2)



an open-source survey
design and administration
framework

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November 2011

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Outline

- Why JULIE?
- What is JULIE?
- Where is JULIE?
- JULIE Framework
 - Survenity Language Quick Tutorial
- JULIE Installation
- JULIE Development
- Quick Survey



INTRODUCTION



Why JULIE?

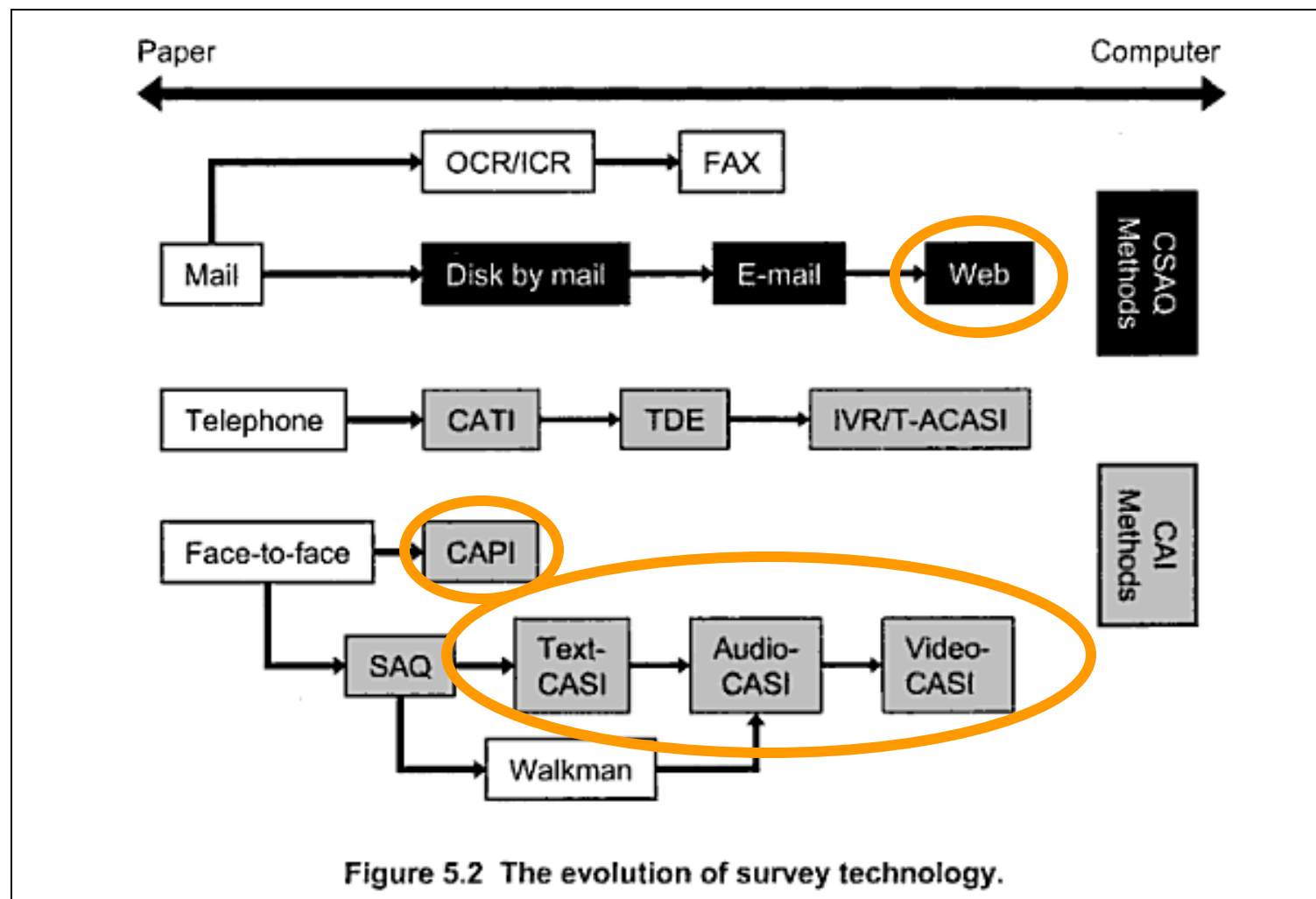
- Looking for a survey framework which is:
 - Open-source software
 - Computer-based (Web, CAPI, CASI)
 - Reusable
 - Flexible survey design
 - Simple survey creation tool
 - Can design stated preference surveys
 - Allows for customization due to responses
 - Responses stored in a database



What is JULIE?

- JULIE is not an acronym
- Bacronym: JULIE = JULIE Is Easy?
- Survey Design Tool
- Survey Administration Tool
- Open-source Software
 - Licensed under the GNU General Public License v3

Survey Data Collection



Source: *Survey Methodology*, Groves et al.



Where is JULIE?

- Homepage
 - Dedicated homepage does not exist at the moment
- Repository
 - Stored on github
 - www.github.com/mmaness/JULIE
- Wiki / Manual
 - www.github.com/mmaness/JULIE/wiki



What is JULIE Built On?

- Ruby
 - Dynamic, reflective, object-oriented programming language
- Rails
 - Open-source web application framework
- SQLite
 - A simple database format
- Survenity
 - A domain-specific language (DSL) for creating surveys



INSTALLING JULIE & DEPENDENCIES



JULIE Installation Overview

- Dependencies – You need:
 - Operating System supported by Ruby (Windows, Mac OS/X, Linux)
 - Ruby 1.8.7-p352
 - (works but not stable: Ruby 1.9.3-p0)
 - Rails 3.0.7
 - SQLite 3.5.6
 - Bundler 1.0.21
- JULIE should work with these versions



Windows Installation

- A command line tool is necessary
 - cmd: Default for Windows, very limited
 - Git bash: comes with RailsInstaller (suggested)
 - Windows PowerShell: comes with Windows 7 (suggested)
- Choose one of the given tool for command line operations



Windows Installation

- Two Options
 - RailsInstaller (recommended)
 - Manual Ruby and Rails Install



WINDOWS INSTALL: RAILSINSTALLER



RailsInstaller Instruction

- For Windows, download and install RailsInstaller 1.3.0
 - <http://railsinstaller.org/>, Go to bottom of page



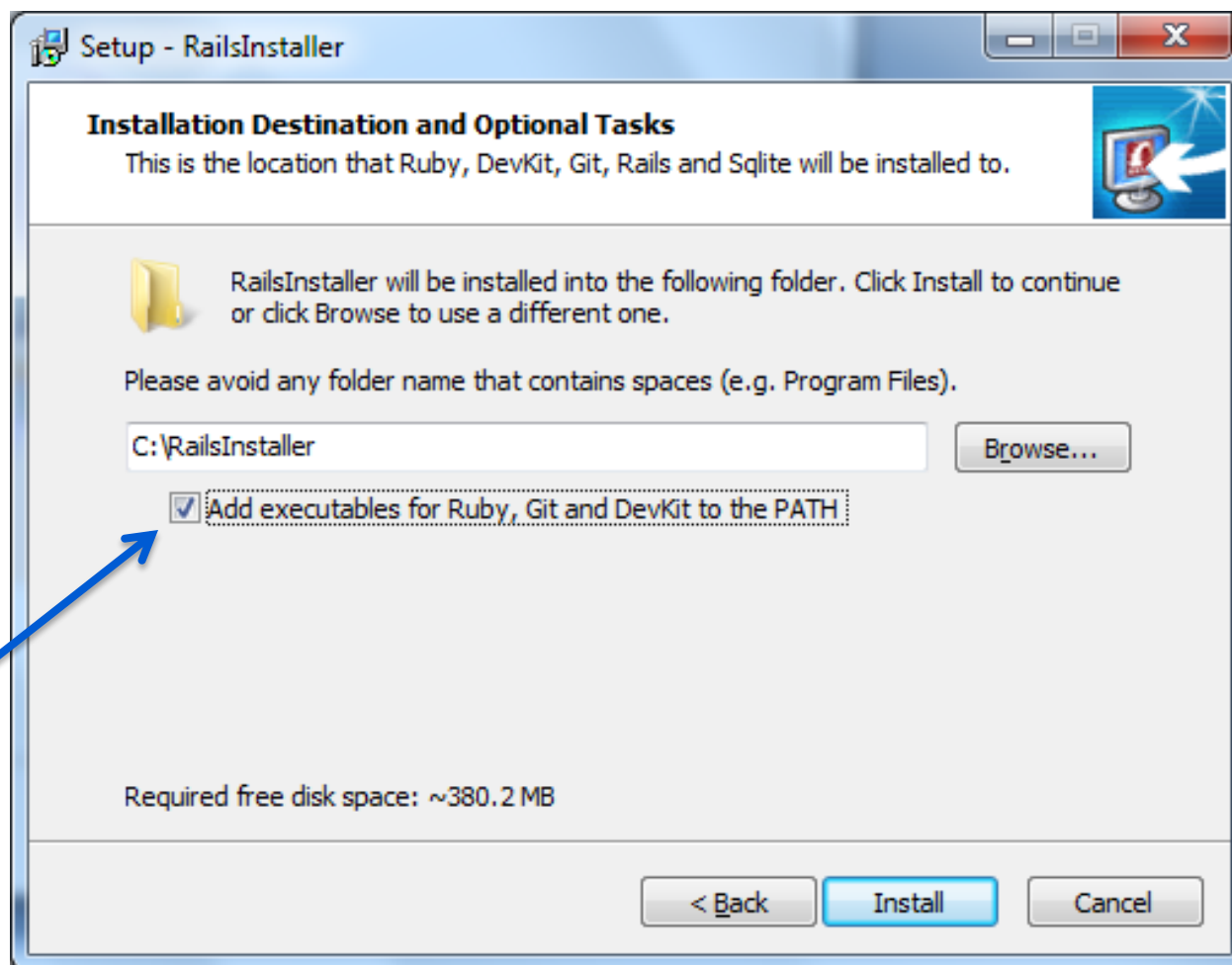


RailsInstaller Instructions





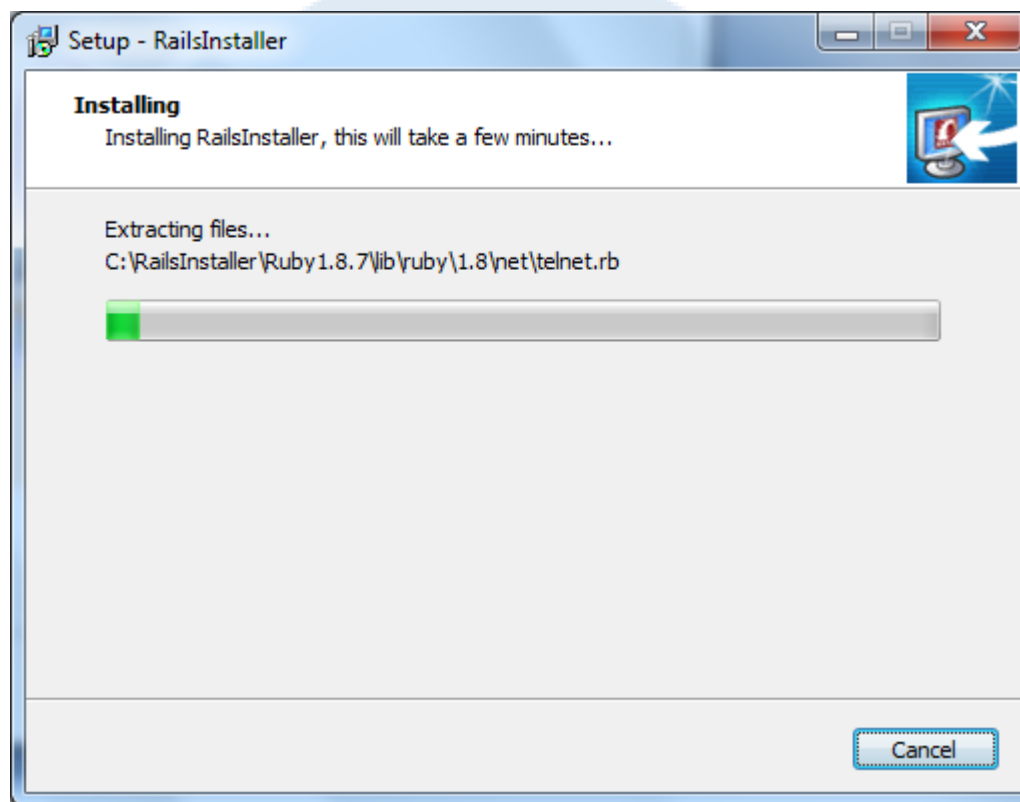
RailsInstaller Instructions



Make sure
to check
this box



RailsInstaller Instructions





RailsInstaller Instructions

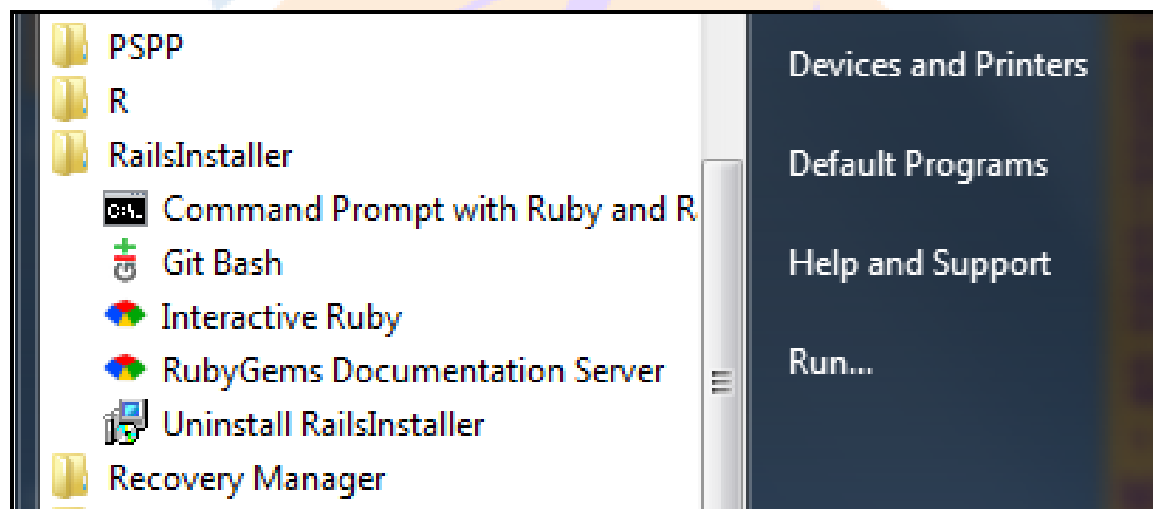


Don't Need
to Check



RailsInstaller Instructions

- RailsInstaller should have inserted some shortcuts into the Start Menu -> All Programs
- Can get to Git Bash here if you are using it as your command line tool





RailsInstaller Instructions

- Check that Ruby, Rails, SQLite, Bundler, and Rake are installed

```
Windows PowerShell
Copyright (C) 2009 Microsoft Corporation. All rights reserved.

PS C:\Users\Mike M> ruby -v
ruby 1.8.7 (2011-06-30 patchlevel 352) [i386-mingw32]
PS C:\Users\Mike M> rails -v
Rails 3.0.9
PS C:\Users\Mike M> sqlite3 --version
3.5.6
PS C:\Users\Mike M> bundle --version
Bundler version 1.0.15
PS C:\Users\Mike M> rake --version
rake, version 0.8.7
PS C:\Users\Mike M> _
```



RailsInstaller Instructions

- If the versions check out, then you should be set to continue
 - (Skip the Windows Manual Installation Slides)

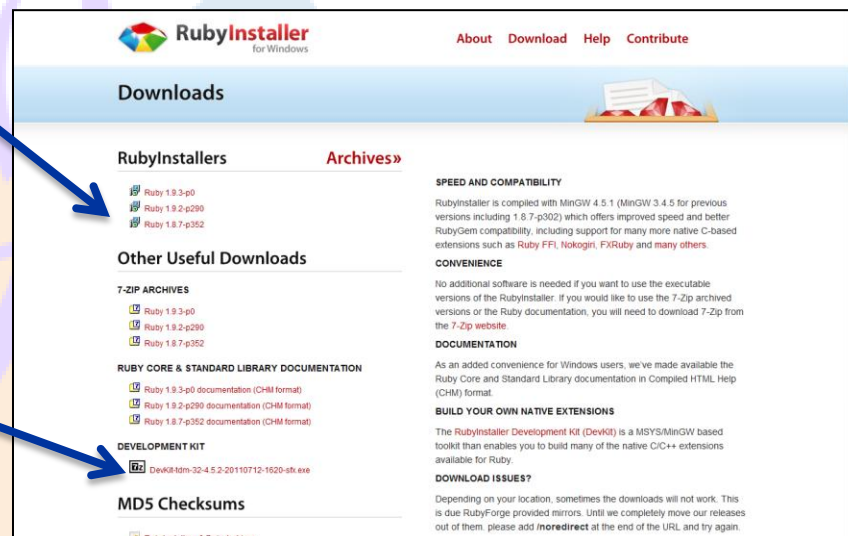


WINDOWS INSTALLATION: MANUAL INSTALL



Windows Manual Installation

- Visit <http://rubyinstaller.org/downloads>
- Install Ruby 1.8.7-p352
 - Run and install to default location: C:\Ruby187
- Install Development Kit
 - Run and install to C:\RubyDevKit





Windows Manual Installation

*In Powershell
(administrator mode):*

- Install DevKit

`cd C:\RubyDevKit
ruby dk.rb init
ruby dk.rb install`

- Install Rails



`gem install rails`

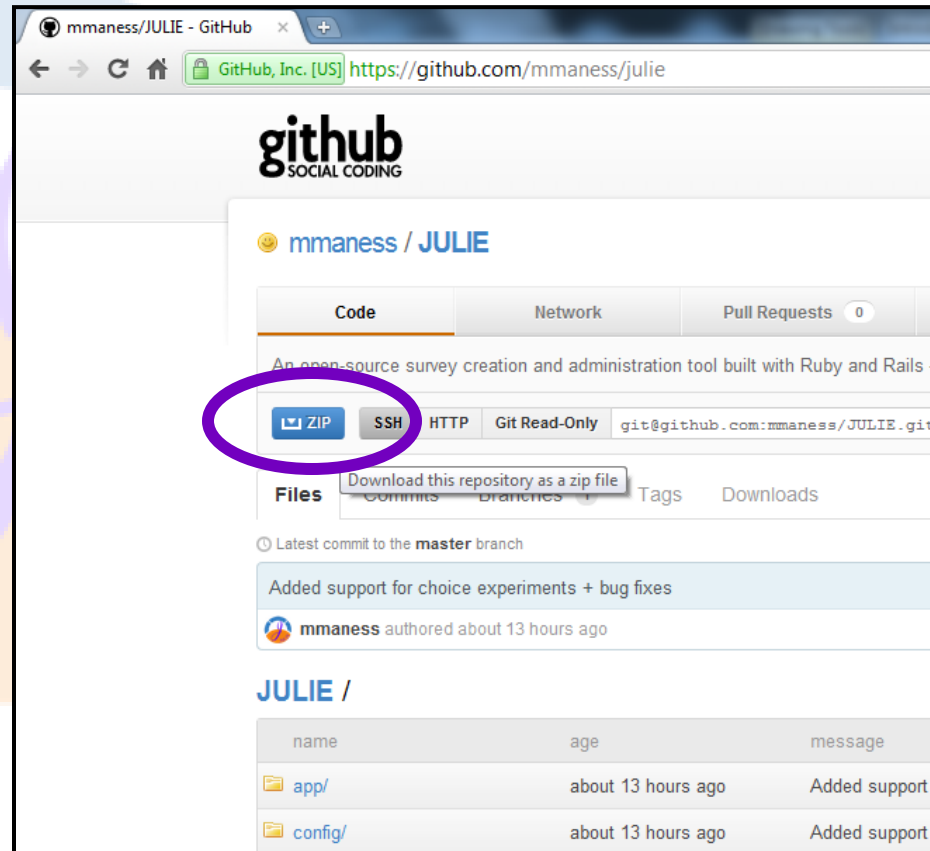


INSTALLING THE JULIE APPLICATION



Download JULIE

- Visit JULIE Repository
- www.github.com/mmaness/julie
- Download JULIE in .zip format
- Open the zip file and copy the directory named JULIE... to C:\
- Rename directory as JULIE-182





Downloading JULIE

- Install all the necessary libraries (RubyGems)
 - In Powershell, move to directory C:\JULIE-182
 - `bundle install`
- See if json has caused an error, type command:
 - `rails -v`
- If error seen, open up Explorer and go to C:\RailsInstaller\Ruby1.8.7\lib\ruby\gems\1.8\specifications
 - Open the file “json-1.6.1.gemspec” in a text editor
 - Replace the line:
`s.date = %q{2011-09-18 00:00:00.000000000Z}`
with this line:
`s.date = %q{2011-08-31}`
 - Save the file



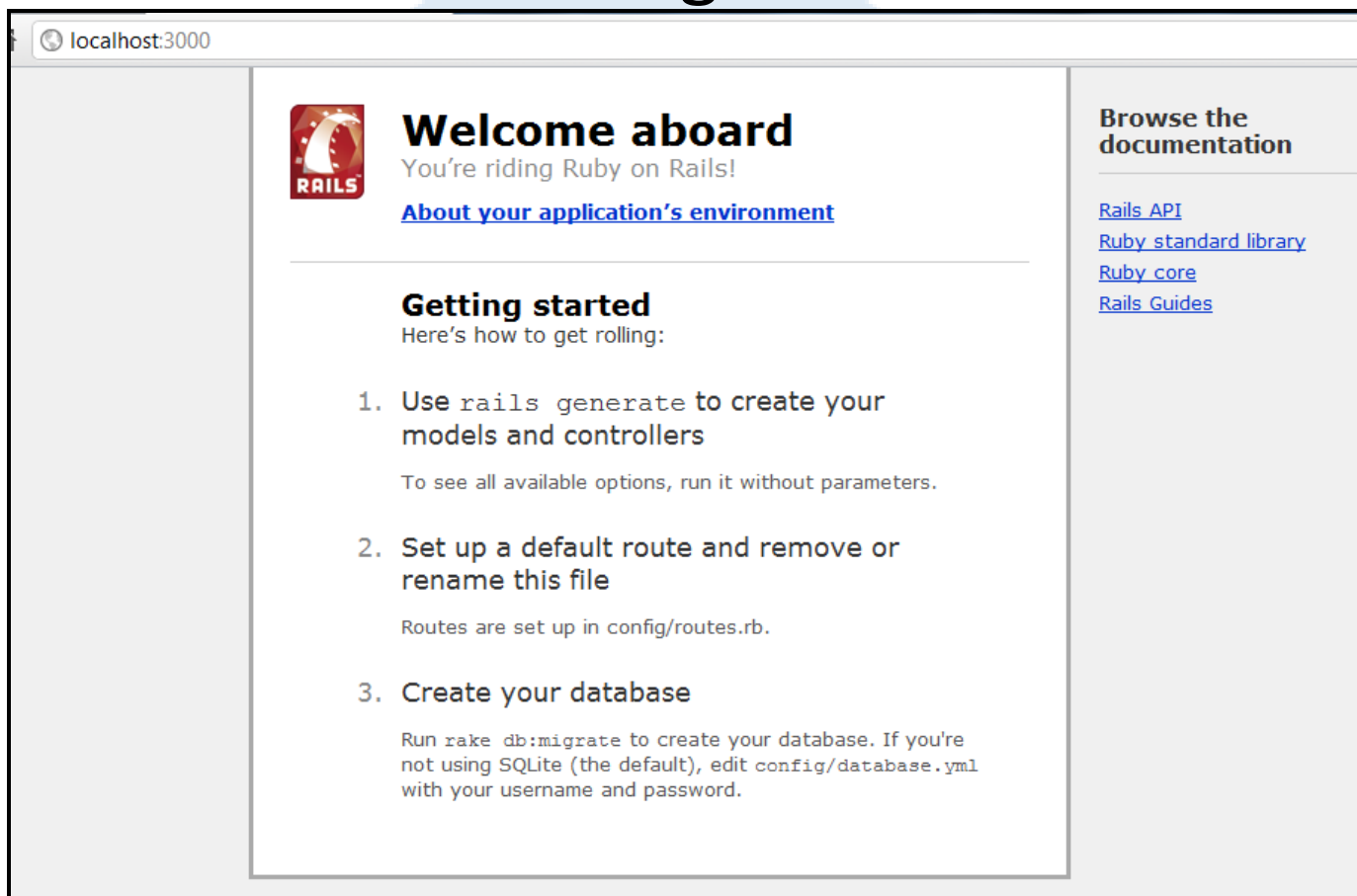
Downloading JULIE

- Create the databases
 - Change directories to `\JULIE-182\db\`
 - Copy `blank_database_template.db`
 - `cp blank_database_template.db development.sqlite3`
 - `cp blank_database_template.db production.sqlite3`
- Perform database migrations
 - `rake db:migrate`
- Run Rails server to see if it worked
 - `rails server`
 - Point a browser to `http://localhost:3000`



Downloading JULIE

- Should see the following screen:





Advanced Downloads

- If doing modifications to JULIE's code, it is suggested to use an Integrated Design Environment (IDE)
- Aptana Studio 3 or Aptana RadRails
 - IDEs for developing web applications
 - Have components for Ruby and Rails applications
 - <http://www.aptana.com/products/studio3/download>
 - Click on “RadRails 2” on the Other Downloads list (right-side of page) to download RadRails instead
 - Download the “Standalone Version”
- Other Ruby and Rails IDEs exist as well



JULIE DEVELOPMENT



Current Version

- You can find the current working version of JULIE on Github (in the master branch)
 - Zip file:
<https://github.com/mmaness/JULIE/zipball/master>
 - Tar file:
<https://github.com/mmaness/JULIE/tarball/master>
- Each release has an update README file with information about changes



Development Version

- JULIE features or bugfixes that are being development are also available to be seen
- This development is usually done in the development branch of the project
- It is not suggested that you download any development branch versions
 - Changes will gradually be merged with the master branch once they are ready



Example JULIE 1.8.2

```
== Release Notes
   Version 1.8.2
```

This is a small update.

The following changes were made (including 1.8.1 release notes):

- * Added a new sample survey, `math_exam.svy`. It is a short Algebra exam with branching depending on right and wrong answers
- * Added a new sample survey, `vacation_survey_extended.svy`
- * Citrus parser no longer ends all ruby execution if an error is thrown. It will throw an exception instead.
- * Survenity grammar changed so that the traits "branch" and "default_branch" can have whitespace after the question name.
- * Modified all question objects such that their `isValid()` method requires an answer and the variable hash.

The following bugs were found and fixed:

- * Number-Input Questions should compile now if they have no bounds. (Bugfix: Kaywinnit Compiler)
- * Assigning single-quoted strings should now work. (Bugfix: Tam Expression Interpreter)
- * For Number-Input Questions where an error would be thrown when answering a Number-Input Question with no bounds. (Bugfix: Number-Input Questions)
- * "Before calculations" for a question that is rendered after a Multiple Branch or Single Branch should now perform correctly. (Bugfix: JULIE Controller)
- * For Number-Input Questions, bounds should now not throw errors when performing validation tests, `isValid()` method. (Bugfix: Number-Input Questions)
- * For Decimal-Input and Currency Questions, all bounds are now converted to floats correctly. (Bugfix: Decimal-Input Questions)
- * The variable hash should now store integer and decimal values from Number-Input Questions correctly as Ruby FixNum and Float objects respectively. (Bugfix: Variable Model/Table)
- * Performed additional bugfixes on bounds for Number-Input Questions. (Bugfix: Kaywinnit Compiler)

```
== Getting Started
```

(See the wiki at <http://www.github.com/mmaness/JULIE/wiki>)

(See installation pdf at https://github.com/mmaness/JULIE/tree/master/doc/Install_JULIE_180.pdf)



JULIE Versions

- To see past versions of JULIE, visit <https://github.com/mmaness/JULIE/tags>





UPGRADING JULIE



Upgrading

- When JULIE is updated, you may want to download new versions
- You do not need to install all the dependencies again but you will need the JULIE package from Github



Upgrade Instructions

- Go to the JULIE homepage and download the latest version (Click on the Zip icon)
- Unzip the file into C:\
 - Make sure you unzip the folder that is inside the zip file so that the paths will align with the instructions
- Rename the directory to JULIE-182 (or whichever version number you downloaded)



Upgrade Instructions

- Open a command line shell (such as GitBash or Windows Powershell)
- Setup the database
 - `cd C:\JULIE-182\db`
 - `cp blank_database_template.db development.sqlite3`
 - `rake db:migrate`
- See if the server runs
 - `rails server`



JULIE FRAMEWORK



JULIE Filesystem

- app/ – components of the application
 - app/controller – JULIE controller code
 - app/helpers – JULIE code that aids MVC as well as other components of the JULIE framework
 - app/model – JULIE model code
 - app/model/survey – survey files are stored here
 - app/model/survenity – Survenity parser, compiler, interpreter
 - app/model/questions – ruby files representing questions and experiments
 - app/view – html and erb files for JULIE's view



JULIE Filesystem

- config/ – configuration files
- db/ – stores the SQLite databases
- lib/ – libraries used by JULIE
- log/ – log files
- public/ – for files which are statically shown, such as images and CSS
- script/ – stores scripts for executing different functions for development and deployment
- test/ – code for testing JULIE
- tmp/ – temporary folder for the application
- vendor/ – stores external gems and plug-ins for the application



JULIE Framework

JULIE

Model

View

Controller

Database

Server

Survey Creation
Tool

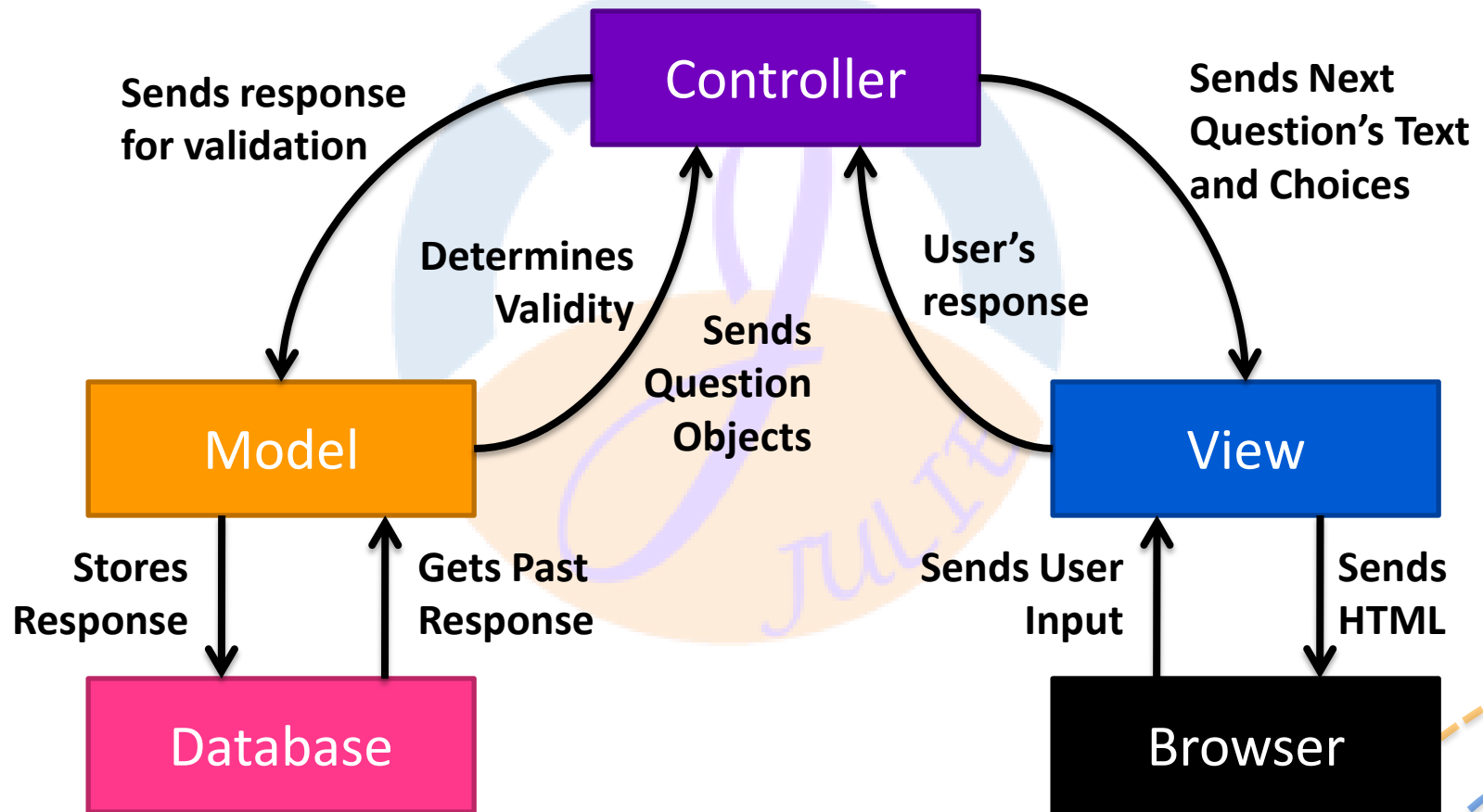
Data Analysis

Paradata Utility

Statistics Package



Model-View-Controller (MVC)





Model

- Ruby classes with blueprint for objects that represent
 - Questions
 - Experiments
- Code to interface with the database
- Stores your survey files as well



View


- Collection of html with embedded Ruby (erb) and .css files
- Current theme is a modification of a theme called Lemonaid by [Smallpark Studio](#)
- More themes available in the future and themes can be customized



View – Lemonaid Theme

Vehicle Ownership in Maryland

A survey about current vehicle characteristics and preferences for future vehicles.



Question 39.

In 2013, the following fuel characteristics are available:

| | Gasoline Fuel | Alternative Fuel | Diesel Fuel | Electricity |
|--|----------------|------------------|-----------------|-----------------------|
| Fuel Price, Pre Tax (price per gallon equivalent) | \$5.32 | \$3.29 | \$2.66 | \$5.35 |
| Fuel Tax | \$0.42 | \$0.30 | \$1.05 | \$0.28 |
| Fuel Efficiency | 29 | 18 | 40 | 75 |
| Fueling Station Availability | Within 5 miles | Within 25 miles | Within 10 miles | 5-hr Home Charge Only |

Which option would you prefer for your vehicle ownership in **2013**?

- ☐ I Will KEEP My Current Vehicle
- ☐ I Will BUY a Gasoline Vehicle (or normal hybrid) that runs on Gasoline
- ☐ I Will BUY an Alternative Fuel Vehicle that runs on Alternative Fuel
- ☐ I Will BUY a Diesel Vehicle that runs on Diesel Fuel
- ☐ I Will BUY an Electric Vehicle that runs on Electric Fuel
- ☒ I Will BUY a Plug-In Hybrid Electric Vehicle that runs on Gasoline and Electric Fuel
- ☐ I Will SELL My Current Vehicle and NOT REPLACE It

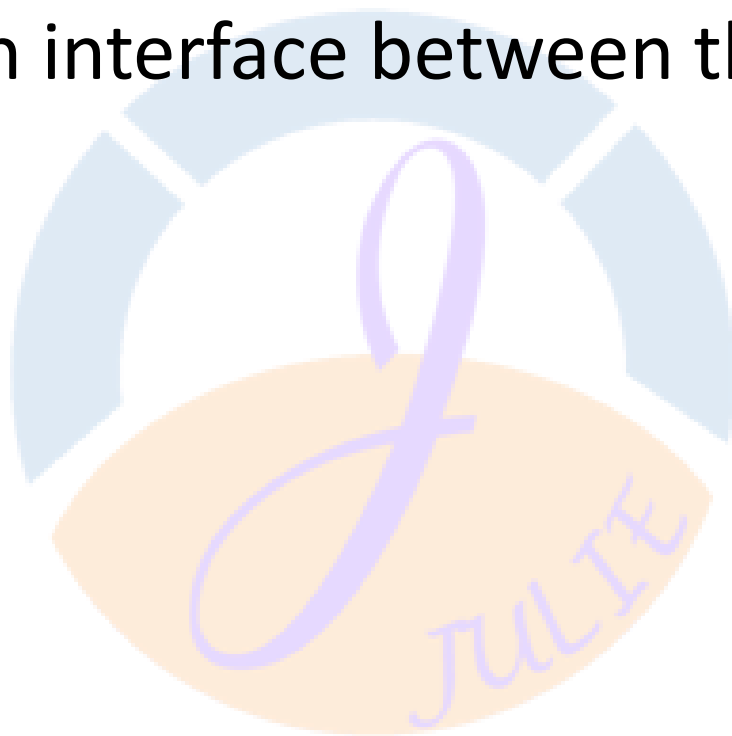
[NEXT >>](#)

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Controller

- Serves as an interface between the view and model





Database

- SQLite is the default database
 - Used for its simplicity and ease of configuration
 - To view the database in a GUI, suggest using the Mozilla Firefox extension *SQLite Manager*
 - <http://code.google.com/p/sqlite-manager/>
- Other databases are supported by Rails
 - Examples: MySQL, Oracle, PostgreSQL



Database

- The database stores the following tables:
 - Pages
 - Questions
 - Experiments
 - Respondents
 - Responses
 - Variables
- Future builds may include:
 - Alternative representations of responses
 - Paradata



Server

- For deployment, use Passenger & Apache
- For development, use WEBrick or Mongrel



Survey Creation Tool - Survenity

- Survenity = Survey Serenity
- Domain-specific language (DSL) for survey creation
- Design tenants
 - Human-readable form
 - Simple, intuitive, and satisfying survey writing
 - Portable between different OS and programming languages



INTRODUCTION TO SURVENITY

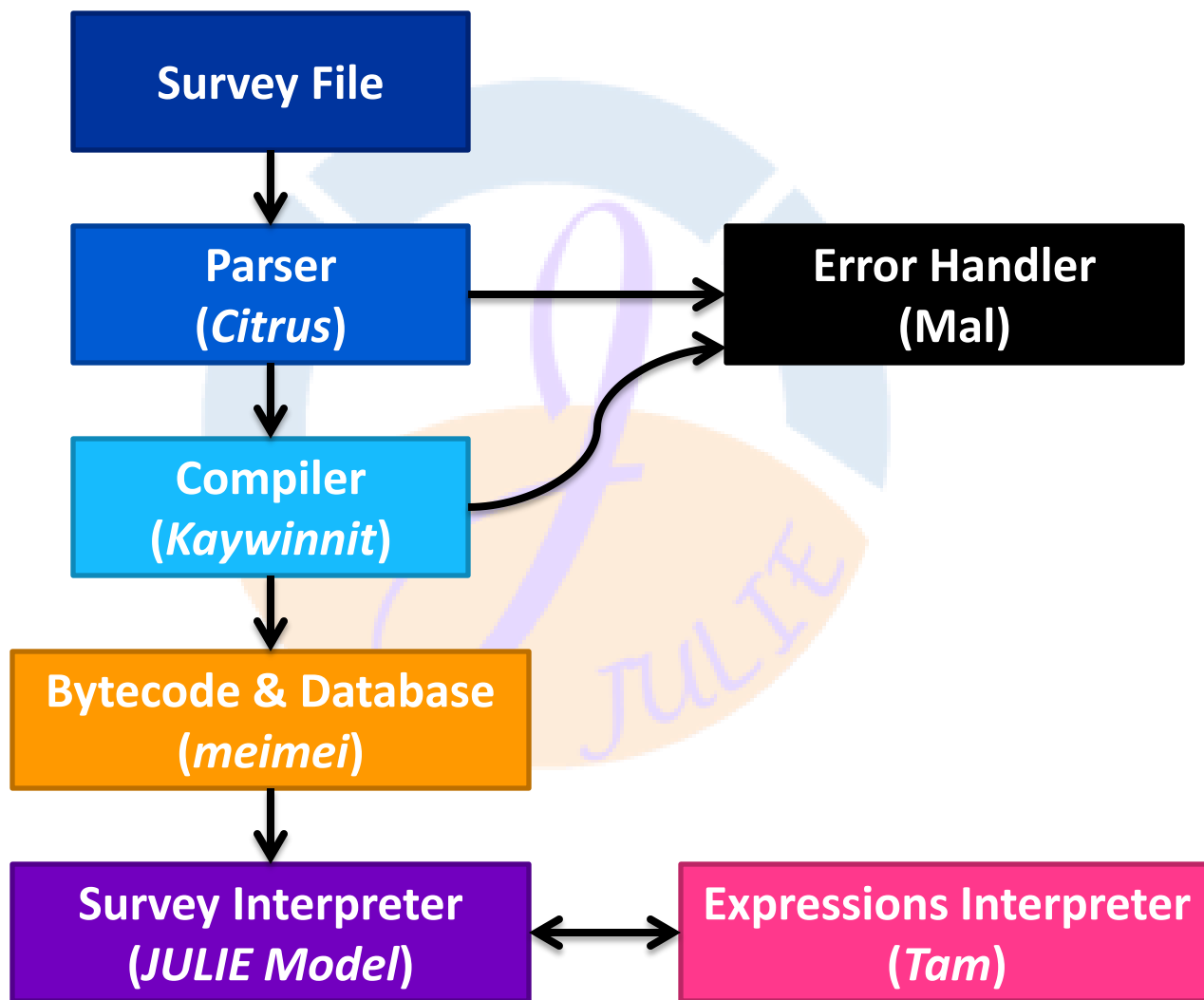


Survenity

- Line-oriented programming language
- Simple Statements: one logical line of code
 - Expression
 - Assignment
 - Question Statement
 - Question Trait
 - Choice Experiment Statement
 - Choice Experiment Trait
- Block: sequence of simple statements



Survenity and JULIE





Expression – Element / Identifier

- Made up of elements and operators
- Element
 - Identifier, literal, or enclosure
- Identifier
 - Variable name: *vehicle_age*
 - Constant name: *Education*



Expression – Literal

- Integer
 - A whole number
 - example: 10, 0, -17
- Decimal
 - A number in base-10 representation
 - example: 0.23, -12.3, 2.0
- String
 - A collection of characters, usually encased in single or double quotes
 - ‘apple’ , “banana”



Expression – Enclosure

- Parenthesized Expression
 - An expression enclosed between parenthesis
 - Example: (21) , (x + y), (x * (2+y))
- List
 - An ordered set of elements
 - Example: [], [2 3 4], [x], ['apple' 117 y]



Expression - Operators

- Sequence
 - 1..5 a list with elements 1, 2, 3, 4, 5
- Arithmetic
 - Exponentiation $2 \wedge 3$
 - Multiplication $2 * 3$
 - Division $2 / 3$
 - Integer Division $2 // 3$
 - Modulo $2 \% 3$
 - Addition $2 + 3$
 - Subtraction $2 - 3$



Assignment

- Assigns the value of an expression to a variable
- *identifier = expression*
 - Example: $\text{velocity} = \text{distance} / \text{time}$
 - Example: $\text{five} = 2 + 1 + 2$



Question Statement

- Statements which represent the creation of a particular type of question

MultipleChoice Education
text "What is your level of education?"
choice "Less than high school"
choice "High school graduate"
choice "Some college"
choice "Associate degree"
choice "Bachelor degree"
choice "Graduate or professional degree"

Question Statement

Associated Block



Question Trait

- Statements which modify the properties of a question
- Placed in blocks which bind a question statement to corresponding question traits

```
MultipleChoice Education
text "What is your level of education?"
choice "Less than high school"
choice "High school graduate"
choice "Some college"
choice "Associate degree"
choice "Bachelor degree"
choice "Graduate or professional degree"
```

Question Text Trait

Choice Option Trait



Choice Experiment Statement

- Statement which represents the creation of a choice experiment

```
ChoiceExperiment VehicleChoice2012  
  alternative 'Gasoline Vehicle'  
    set_levels_for MPG <- [1 2 3 4]  
  alternative 'Hybrid Vehicle'  
    set_levels_for MPG <- [5 6 7 8]  
  choice "Buy New Gasoline Vehicle"  
  choice "Buy New Hybrid Vehicle"
```

Choice Experiment
Statement

Associated Block

Choice Experiment Trait

- Statement which modifies the properties of a choice experiment
- Placed in blocks which bind a choice experiment to corresponding choice experiment traits

```
ChoiceExperiment VehicleChoice2012
  alternative 'Gasoline Vehicle'
    set_levels_for MPG <- [1 2 3 4]
  alternative 'Hybrid Vehicle'
    set_levels_for MPG <- [5 6 7 8]
  choice "Buy New Gasoline Vehicle"
  choice "Buy New Hybrid Vehicle"
```

Experiment
Alternative Trait

Levels Trait



CREATING SURVEYS



Creating a Survey

- Create a text file in /app/models/surveys
- Open the text file with a text editor
 - Notepad++
 - (<http://download.tuxfamily.org/notepadplus/5.9.6/npp.5.9.6.Installer.exe>)
 - Notepad
 - May have problem with line breaks, haven't tested it



Adding Questions

- Questions are associated with Pages
 - Currently only one question is allowed per page
- When creating a Page, if only 1 Question is added, then you don't need to explicitly declare a page.
 - JULIE will assume the Question and Page are equivalent
- All Questions begin with a declaration of their type, question name, and a block of associated traits
- A list of question types can be found at <https://github.com/mmaness/JULIE/wiki/Question>



Adding Questions

- Questions have traits
- Traits modify properties of a question such as:
 - Question Text
 - Choice Options
 - Calculations to perform
- A list of question traits can be found at <https://github.com/mmaness/JULIE/wiki/Question-Trait>



Adding Choice Experiments

- Choice Experiment are independent of Questions and identified by a Constant
- Ordering of Choice Experiments is not important
- The lineage between Choice Experiments and the survey is through Scenario questions (via the *experiment* trait)
- <https://github.com/mmaness/JULIE/wiki/ChoiceExperiment>



Choice Experiment Traits

- When creating a Choice Experiment, you need to have the following in mind:
 - Alternatives
 - For each attribute, determine which levels to use
 - Attributes
 - Levels for each attribute
 - Choice Set
 - Experimental Design
 - Text to show before and after the table
- <https://github.com/mmaness/JULIE/wiki/Choice-Experiment-Trait>



Comments

- Comments are not interpreted but are strictly there to aid in human reading of the code
- Comments are denoted with either the `#` or `//` delimiter
 - `# This is a comment`
 - `// This is a comment`
- Comments can be placed on lines by themselves or at the end of a line of code
 - `MultipleChoice Income #Income Question`



EXAMPLE SURVEY VACATION CHOICE

Example Survey

- This example survey is available in your JULIE release (versions 1.8.2 and higher)
- To load the survey open a command line shell (Git Bash, Powershell)
 - `cd C:\JULIE-182`
 - `rails console`
 - `load 'survey_script.rb'`
 - `parse_and_compile 'samples/vacation_choice_extended.rb'`

Example Survey

- The following slides go through the survey question by question showing you the question views which correspond to each line of Survenity code



GeneralSettings

- Set the survey name, description, and first section label

```
# A simple survey about vacation preferences  
# Written by Michael Maness
```

```
SurveySettings GeneralSettings  
  survey_name "Vacation Choice Survey"  
  survey_description "A simple survey to show JULIE's features"  
  section "Section 1 of 2: Most Recent Trip"
```

Vacation Choice Survey

A simple survey to show JULIE's features



UNIVERSITY OF
MARYLAND



Section 1 of 2: Most Recent Trip

Welcome to the Vacation Choice Survey

First, you will be asked a series of questions about your most recent vacation.

Press **NEXT** to continue

NEXT >>

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Created with JULIE

Dummy Intro

```
text "Welcome to the Vacation Choice Survey"
```

```
text "<br/><br/>"
```

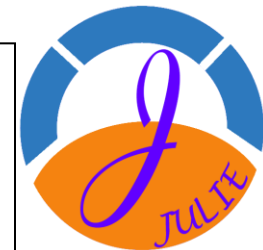
```
text "First, you will be asked a series of questions about your"
```

```
text "most recent vacation."
```

Vacation Choice Survey

A simple survey to show JULIE's features

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Section 1 of 2: Most Recent Trip

Question 1.

Have you taken a vacation away from home within the last 12 months?

- ☐ Yes
- ☐ No

NEXT >>

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YesNo RecentVacation

text "Have you taken a vacation away from home within
text "the last 12 months?"



- Question Logic Modification
 - If someone replied to the last question with “Yes” then proceed to the next question (International)
 - Otherwise proceed to another question called EndOfSurvey

```
MultipleBranch RecentVacationBranch  
reference RecentVacation  
branch "Yes", International  
default_branch EndOfSurvey
```



Vacation Choice Survey

© 2011

A simple survey to show JULIE's features

Section 1 of 2: Most Recent Trip

Question 2.

For your most recent trip, did you leave the country?

- ☐ Yes
- ☐ No

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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YesNo International

text "For your most recent trip, did you leave the country?"



Vacation Choice Survey

A simple survey to show JULIE's features



Section 1 of 2: Most Recent Trip

Question 2.

In terms of days, how long was your trip?

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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Integer TripLength

text "In terms of days, how long was your trip?"

bounds 0, 365



- Question Logic Modification
 - If someone replied to the last question (International) with “Yes” then proceed to the Country question
 - If someone replied to the last question (International) with “No” then proceed to the State question

MultipleBranch InternationalBranch
reference International
branch "Yes", Country
branch "No", State

Vacation Choice Survey

A simple survey to show JULIE's features



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MARYLAND



Section 1 of 2: Most Recent Trip

Question 3.

What country did you visit primarily?

(If you visited more than one country, which country did you spend the most time at?)

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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Created with JULIE

OpenEnded Country

```
text "What country did you visit primarily?"
```

```
text "<br/>(If you visited more than one country, which country"
```

```
text "did you spend the most time at?)"
```

```
calculation after
```

```
comma = ","
```

```
end
```

SingleBranch City

github.com/mmaness/julie

Vacation Choice Survey

A simple survey to show JULIE's features



Section 1 of 2: Most Recent Trip

Question 3.

What state did you visit?

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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Created with **JULIE**

OpenEnded State

text "What state did you visit?"

Vacation Choice Survey

A simple survey to show JULIE's features



Section 1 of 2: Most Recent Trip

Question 4.

What city did you visit?

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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Created with **JULIE**

OpenEnded City

text "What city did you visit?"

Vacation Choice Survey

A simple survey to show JULIE's features



Section 1 of 2: Most Recent Trip

Question 5.

How did you decide on visiting Zurich, Switzerland?

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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Created with JULIE

TextArea TripReason

```
text "How did you decide on visiting :(City):(comma) :(State) "  
text ":(Country)?"
```

Vacation Choice Survey

A simple survey to show JULIE's features



Section 1 of 2: Most Recent Trip

Question 6.

In terms of days, how long was your trip?

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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Integer TripLength

text "In terms of days, how long was your trip?"

bounds 3, 365



Vacation Choice Survey

A simple survey to show JULIE's features

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Section 1 of 2: Most Recent Trip

Question 7.

How much did you enjoyed your trip?

- ☐ Very much
- ☐ Somewhat
- ☐ Indifferent
- ☐ Not much
- ☐ Not at all

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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Created with **JULIE**

```
MultipleChoice Enjoyment
text "How much did you enjoyed your trip?"
choice "Very much"
choice "Somewhat"
choice "Indifferent"
choice "Not much"
choice "Not at all"
```



Vacation Choice Survey

A simple survey to show JULIE's features



Section 1 of 2: Most Recent Trip

Question 8.

How much did your trip cost, in US dollars?

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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Created with JULIE

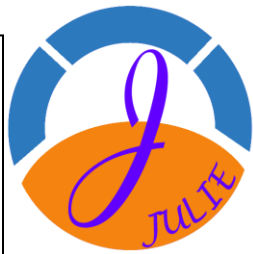
Integer TripCost

text "How much did your trip cost, in US dollars?"

bounds 0

Vacation Choice Survey

HARVARD



Section 2 of 2: Future Trip

You will be given four scenarios about different vacations you can choose from.

Press **NEXT** to continue

NEXT >>

Press **BACK** to go to the last question...

<< BACK

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Created with **JULIE**

```
SurveySettings NewSection  
  section "Section 2 of 2: Future Trip"
```

```
Dummy ExpInstructions  
  text "You will be given four scenarios about different vacations"  
  text "you can choose from."
```

ChoiceExperiment VacationChoice

```
attribute Attractions
  attribute_label "Attractions"
  add_level 0, 0
    "Beach"
  add_level 1, 1
    "Ski Resort"
attribute Cost
  attribute_label "Trip Cost"
  add_level 0, 1
    "$:(TripCost)"
  add_level 1, 0.5
    "$:(low_cost)"
  add_level 2, 2
    "$:(high_cost)"
attribute Nights
  attribute_label "Trip Length"
  add_level 0, -2
    ":(short_trip) days"
  add_level 1, 0
    ":(TripLength) days"
  add_level 2, 2
    ":(long_trip) days"
attribute OutOfCountry
  attribute_label "International Trip?"
  add_level 0, 0
    "No"
  add_level 1, 1
    "Yes"
```





```
alternative "Vacation A"
```

```
  set_levels_for Attractions <- [0 1]
```

```
  set_levels_for Cost <- [0 1 2]
```

```
  set_levels_for Nights <- [0 1 2]
```

```
  set_levels_for OutOfCountry <- [0 1]
```

```
alternative "Vacation B"
```

```
  set_levels_for Attractions <- [0 1]
```

```
  set_levels_for Cost <- [0 1 2]
```

```
  set_levels_for Nights <- [0 1 2]
```

```
  set_levels_for OutOfCountry <- [0 1]
```

```
pre_table_text "The following vacation options are available:"
```

```
post_table_text "From the vacations shown above, which would you prefer for  
your next trip?"
```

```
choice "I will take Vacation A"
```

```
choice "I will take Vacation B"
```

```
add_design <- [0 0 0 0]
```

```
add_design <- [1 1 1 1]
```

```
add_design <- [0 1 0 0]
```

```
add_design <- [1 0 1 1]
```

```
add_design <- [1 2 2 0]
```

```
add_design <- [0 2 1 1]
```

```
add_design <- [0 2 2 0]
```

```
add_design <- [1 1 2 1]
```

```
add_design <- [0 1 2 0]
```



Vacation Choice Survey

• 1/1/2011

A simple survey to show JULIE's features

Question 9.

The following vacation options are available:

| | Vacation A | Vacation B |
|---------------------|------------|------------|
| Attractions | Ski Resort | Beach |
| Trip Cost | 500.0 | 2000 |
| Trip Length | 9 | 9 |
| International Trip? | Yes | No |

From the vacations shown above, which would you prefer for your next trip?

- ☐ I will take Vacation A
☐ I will take Vacation B

NEXT >>

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```

Scenario SP1
  experiment VacationChoice
  calculation before
    low_cost = TripCost / 2
    high_cost = TripCost * 2
    short_trip = TripLength - 2
    long_trip = TripLength + 2
  end
  
```



Scenario SP2

experiment VacationChoice

Scenario SP3

experiment VacationChoice

Scenario SP4

experiment VacationChoice

Calculation EndOfSurvey

1+1

EndSurvey



SURVEY CREATION TIPS



Creating a Survey – Tips

- Remember that a survey is a sequence of pages (questions)
 - Question order matters, assumed sequential with branches to change order
- Usually make a survey settings “question” the first question so you can set the survey name and description
- Remember that the wiki is there to aid you with descriptions of each question type and trait and their expected syntax



Creating a Survey - Tips

- When first learning Survenity, parse your survey after creating each question to limit what can go wrong. This way if you have a mistake in your code, you only have to concentrate on one question at a time.
- Remember that you can only do calculations within Calculation Questions or within calculation traits



Creating a Survey - Tips

- Survenity is dynamically typed, so it will not know until runtime (survey rendering) if a variable has a value and what the type of that value is. Be careful that your calculations are done safely and in the correct order.



SUBMITTING ISSUES VIA GITHUB



Submitting Issues via Github

- You may find a bug or an unexpected result
- Discuss these issues using Github's Issue Tracking System
- Create an account on Github at [www.github.com/plans](https://github.com/plans)

The screenshot shows the GitHub 'Plans & Pricing' page. At the top, the GitHub logo and 'SOCIAL CODING' are visible. Navigation links include 'Signup and Pricing', 'Explore GitHub', 'Features', 'Blog', and 'Login'. The main heading is 'Plans & Pricing' with the subtext 'Join today and collaborate with the smartest developers in the world.' Below this, three pricing plans are listed: 'Free for open source' (\$0/mo), 'Micro' (\$7/mo), 'Small' (\$12/mo), and 'Medium' (\$22/mo). The 'Free for open source' plan is highlighted with a yellow background. A purple circle highlights the 'Create a free account' button located on the right side of the 'Free for open source' plan card.

| Plan | Price |
|----------------------|---------|
| Free for open source | \$0/mo |
| Micro | \$7/mo |
| Small | \$12/mo |
| Medium | \$22/mo |



Submitting Issues via Github

The screenshot shows the GitHub sign-up page in a web browser. The browser's address bar shows the URL <https://github.com/signup/free>. The page features the GitHub logo and navigation links: [Signup and Pricing](#), [Explore GitHub](#), [Features](#), [Blog](#), and [Login](#). A button for [Log in to an existing account](#) is also present.

Sign up for GitHub

\$0/mo You are signing up for the **free** plan
The cost for this plan is **\$0 per month**. You can cancel, downgrade, or upgrade at any time.

Create your free personal account

Username

Email Address


We promise we won't share your email with anyone.

Password

Must contain one lowercase letter, one number, and be at least 7 characters long

Confirm Password

By clicking on "Create an account" below, you are agreeing to the [Terms of Service](#) and the [Privacy Policy](#).

[facebook](#) [EMI](#) [YAHOO!](#) [37signals](#) 

You're joining the smartest companies in the world

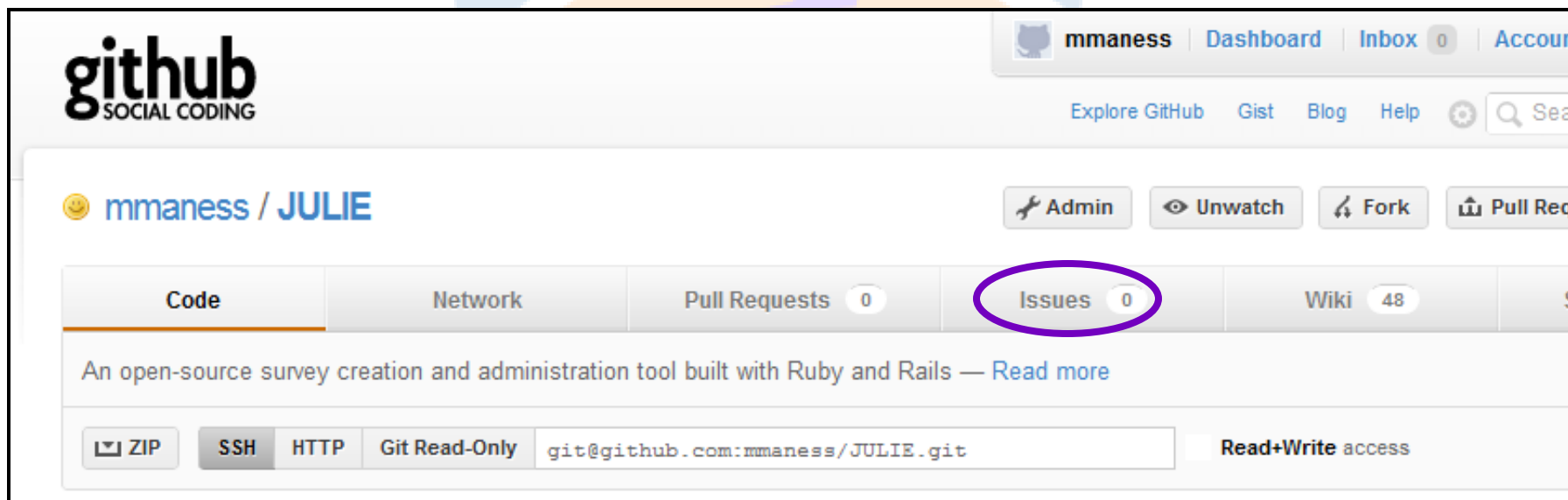
- ✓ Email support
- ✓ Upgrade, downgrade or cancel at any time
- ✓ Secure, reliable, always-available repository hosting

[Create an account](#)



Submitting Issues via Github

- Navigate to the JULIE github site
 - github.com/mmaness/julie
- Click on Issues in the toolbar below “mmaness/JULIE”





Submitting Issues via Github

- Click on “New Issue”

The screenshot shows the GitHub interface for the repository `mmaness / JULIE`. The user is logged in as `mmaness`. The top navigation bar includes links to `Dashboard`, `Inbox` (0), `Account Settings`, and `Log Out`. Below the repository name, there are buttons for `Admin`, `Unwatch`, `Fork`, `Pull Request`, and a notification bell with 1 notification. The main navigation bar has tabs for `Code`, `Network`, `Pull Requests` (0), `Issues` (1), `Wiki` (48), and `Stats & Graphs`. The `Issues` tab is active. On the left sidebar, under `Browse Issues`, there are links for `Everyone's Issues` (1), `Assigned to you` (0), and `Mentioning you` (0). The main content area shows a search bar with the text `Issues & Milestones...` and a `New Issue` button circled in blue. Below the search bar, there are filters for `1 open issue` and `0 closed issues`, and a dropdown menu for `Submitted`. The list of issues shows one issue titled `#1 Test` by `mmaness` 3 minutes ago, with 1 comment. The bottom of the page shows the URL `github.com/mmaness/julie`.



Submitting Issues via Github

github.com/mmaness/JULIE/issues/new

github SOCIAL CODING

mmaness / JULIE

Admin Unwatch Fork Pull Request 1 1

Code Network Pull Requests 0 Issues 1 Wiki 48 Stats & Graphs

Browse Issues Milestones Search: Issues & Milestones... New Issue

Title

No one is assigned No milestone

Write Preview Comments are parsed with GitHub Flavored Markdown

Insert Your Problem Here (be as descriptive as possible)

Be sure to submit when done Submit new issue



Submitting Issues via Github



CONTACT INFORMATION



Contact Information

- Michael Maness
 - JULIE Lead Developer
 - Email: mmaness.julie@gmail.com
 - Website: www.github.com/mmaness/julie
- Please report issues using the Github issue tracking system but email contact is ok as well
- Specific questions about JULIE can be directed to Michael by email
- Contact Michael if interested in helping with development