

# **Black Box**

15-437 Term Project

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# Description

Black Box is a website that lets you create and consume “black box” Node.js APIs.

“Black box” APIs are written in Node.js and take a certain form of input, then respond with a certain form of output.

# Example: Random Data API

For frontend developers that want to populate their views with fake data:

Request: `http://blackboxjs.com/random/?name=M&ageMin=18&ageMax=65`

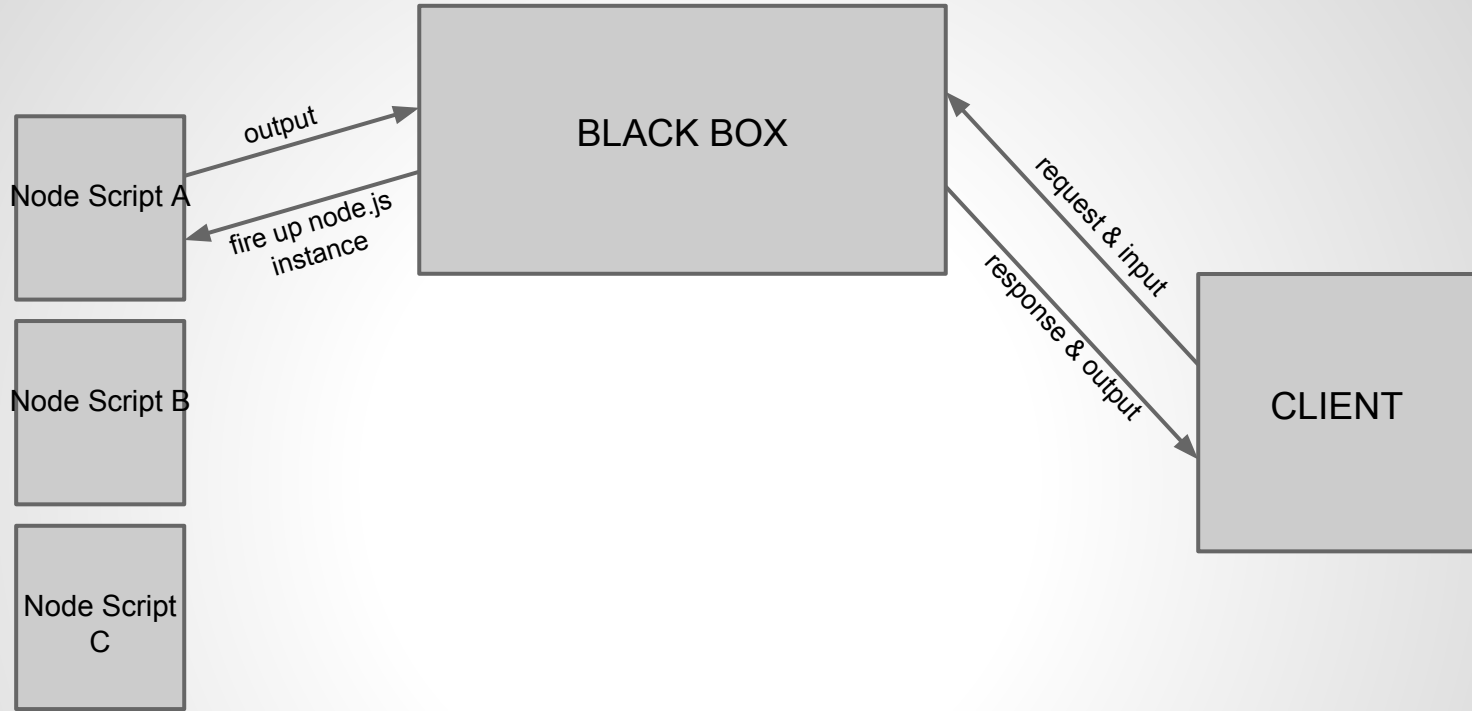
Response: `{"name": "Bob Jones", "age": "27"}`

# Goals

The website has two facets: the front-end where you can search/browse APIs, read documentation, and rate users, and the back-end that allows users to consume the APIs.

Note: going to use JSONP to overcome cross-site scripting problems.

# Structure



Note - within “Black Box” there are two servers: django server to control the frontend and a node.js server to fire up VMs and pass input/output from/to the django server. The servers themselves communicate through AJAX requests (django server is also client).

# Django Models

User:

- username
- password (hashed)
- email

Box:

- boxname
- rating
- documentation
- script
- owner (Foreign)

Notes:

- No need to complicate with more models, everything I need can be done with these two.
- “owner” is a foreign key that points to a user in order to create a one-to-many relationship.
- “documentation” is a text field that should be formatted as markdown.
- “script” is a text field that should be the javascript node.js module.

# The Node.js Part\*

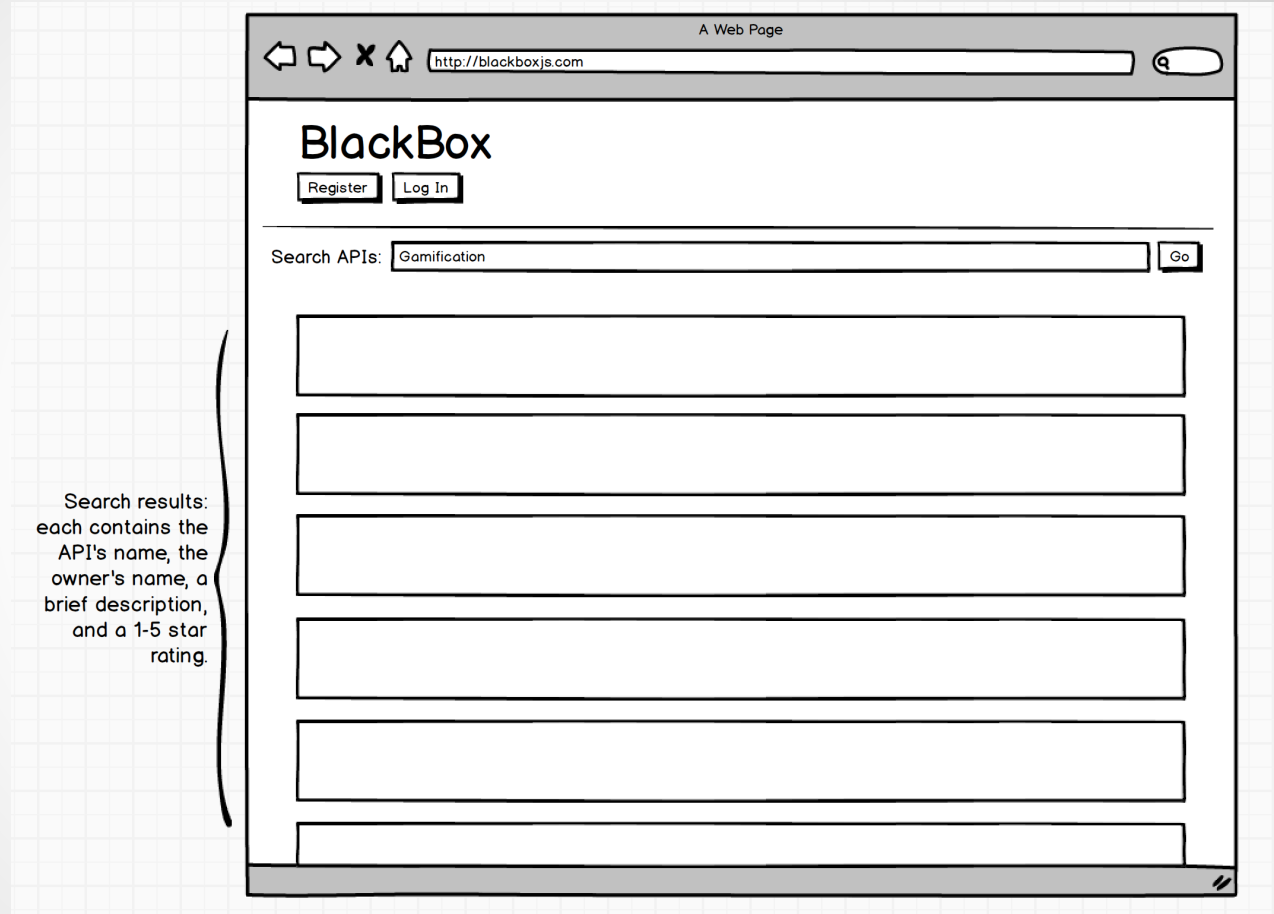
- Server receives script text from django server
- Activates the script in a secure virtual node machine
- Passes arguments to VM, responds to django server with result

\* already completed



# **Appearance**

# Home



Note: similar to “manage” page.

# Create

A hand-drawn mockup of a web browser window. The browser's address bar shows 'http://blackboxjs.com' and the page title is 'A Web Page'. The page content includes a 'BlackBox' header with 'Home' and 'Logout' links, and a 'Welcome, tborenst!' message. The main section is titled 'Create API' and contains four form fields: 'Name' (with 'RandomizeJS' entered), 'Description' (with a placeholder text about fake back-end data), 'Script' (with an 'Upload Script File' button), and 'Documentation' (with an 'Upload Markdown File' button). A 'CREATE' button is positioned at the bottom right of the form area.

A Web Page

http://blackboxjs.com

## BlackBox

[Home](#) [Logout](#) Welcome, tborenst!

### Create API

Name:

Description:

Script:

Documentation:

Note: similar to “edit” page.

**Progress so far...**