**GraviTeam**

*A Programmer’s Reference Guide to the Collaborative Scientific Tool*

*A Proof of Concept for JPL*

SpaceBuffs – CU Boulder ’14-‘15 Senior Project

**Table of Contents**

1. Installing Necessary Software 2

1.1 Installing Git 2

1.2 Installing Meteor 2

2. Cloning/Downloading the GraviTeam Repository 2

3. Software Architecture Overview 3

4. Initializing the User Database 4

5. Viewing the GraviTeam Software on your Local Machine 5

6. Deploying the GraviTeam Software 5

7. More Help 5

# 1. Installing Necessary Software

In order to work with the GraviTeam package, Git and Meteor must be installed on your machine.

## 1.1 Installing Git

“Git is a [free and open source](http://www.git-scm.com/about/free-and-open-source) distributed version control system designed to handle everything from small to very large projects with speed and efficiency. Git is [easy to learn](http://www.git-scm.com/documentation) and has a [tiny footprint with lightning fast performance](http://www.git-scm.com/about/small-and-fast). It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like [cheap local branching](http://www.git-scm.com/about/branching-and-merging), convenient [staging areas](http://www.git-scm.com/about/staging-area), and [multiple workflows](http://www.git-scm.com/about/distributed).” (git-scm.com)

Install git for your operating system here: <http://www.git-scm.com/downloads>.

## 1.2 Installing Meteor

“Meteor is a complete open source platform for building web and mobile apps in pure JavaScript.” (meteor.com)

Install Meteor for your operating system here: <https://www.meteor.com/install#>!

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# 2. Cloning/Downloading the GraviTeam Repository

If you point your browser to <https://github.com/SpaceBuffs/CCT>, you’ll see the source code for the whole GraviTeam software package. In your terminal, create a directory where you’d like the source files to reside on your machine. For example:

cd /home/

mkdir GraviTeam

cd GraviTeam

A. If you have git installed, you can use ‘git clone’ to clone this repository, pulling the source code into your new directory:

git clone <https://github.com/SpaceBuffs/CCT.git>

B. Alternatively, click “Download ZIP” on the right side of the web page and download and extract these files into your GraviTeam directory.

Check that you have the same directories as the repository online.

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# 3. Software Architecture Overview

Below is the software architecture, excluding README.md files, images, and temporary backup files.

**Key:**

…: child directory/file

**‘name’/:** directory

‘name.extension’: file

⇒ directory/file description

**CCT/** ⇒ GraviTeam source code parent directory

…route.js => Used to map pages to URL.

…**collections/** => Includes code that interacts with the database tables.

…**public/** => Includes publicly available files like images.

…**server/** => Files in here (Credentials or “secret” code) are only run on the server, not the client.

…**client/** => Folder of css, html, and javascript files that are run on the client only.

……subscriptions.js => Works with publications.js to update upon changes to the database.

…….**html/ =>** HTML files defining the look and feel of each sub-app.

…….**lib/ =>** Includes imported js files from jquery.

…….**stylesheets/ =>** Includes main css files for formatting the app.

…….**templates/ =>** Includes js files for client-side functionality.

…**lib/** => Inludes the javascript for files that need to be loaded first.

…**tests/** => Testing files for the app functionality.

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# 4. Initializing the User Database

Before you deploy the GraviTeam software, pre-define your user database and temporary passwords.

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# 5. Viewing the GraviTeam Software on your Local Machine

Before you deploy the GraviTeam software, check the functionality by running on your machine’s local host. In the terminal, type:

* meteor

Meteor will run the GraviTeam app at the given local URL. You should see a message similar to the one blow:

user@machine:~/GraviTeam/CCT$ meteor

[[[[[ ~/GraviTeam/CCT ]]]]]

=> Started proxy.

=> Started MongoDB.

=> Started your app.

=> App running at: <http://localhost:3000/>

Go to <http://localhost:3000/> in Safari, Chrome, or Firefox to test out the application.

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# 6. Deploying the GraviTeam Software

When you are ready to deploy the GraviTeam software with the database and pre-existing user accounts defined, run the following command from the terminal:

>meteor deploy [URL]

Where URL is the URL of the website to deploy to.

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# 7. More Help

For additional help, you can access the user manual, or email [Barbara.A.Streiffert@jpl.nasa.gov](mailto:Barbara.A.Streiffert@jpl.nasa.gov) or [Hope.Sanford@colorado.edu](mailto:Hope.Sanford@colorado.edu).