Design Studio:
4.032 / 4.033 Information and Visualization

PROGRAMMING PART

Irene de la Torre – Arenas

Email: delatorr@mit.edu

Office Hours: Mondays, 5:00 – 7:00 at CDC

Goal of the class

Beyond acquiring technological skills, learn fundamentals concepts
of information design and data visualization and develop the strategies to communicate
different types of information and data.

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different types of information and data.

Synthetize your design skills in a data visualization project

At the end of the course, you should be able to plan, conceptualize, develop and refine a data visualization project of any type.

Remember…

The goal of information design and, therefore, data visualization is to explain information. Sometimes it can try to persuade. But it will never try to obscure.

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And if it's doing it. Then, it's another thing…

Project 1 — Visualizing time

Sketch and develop 3 displays of time

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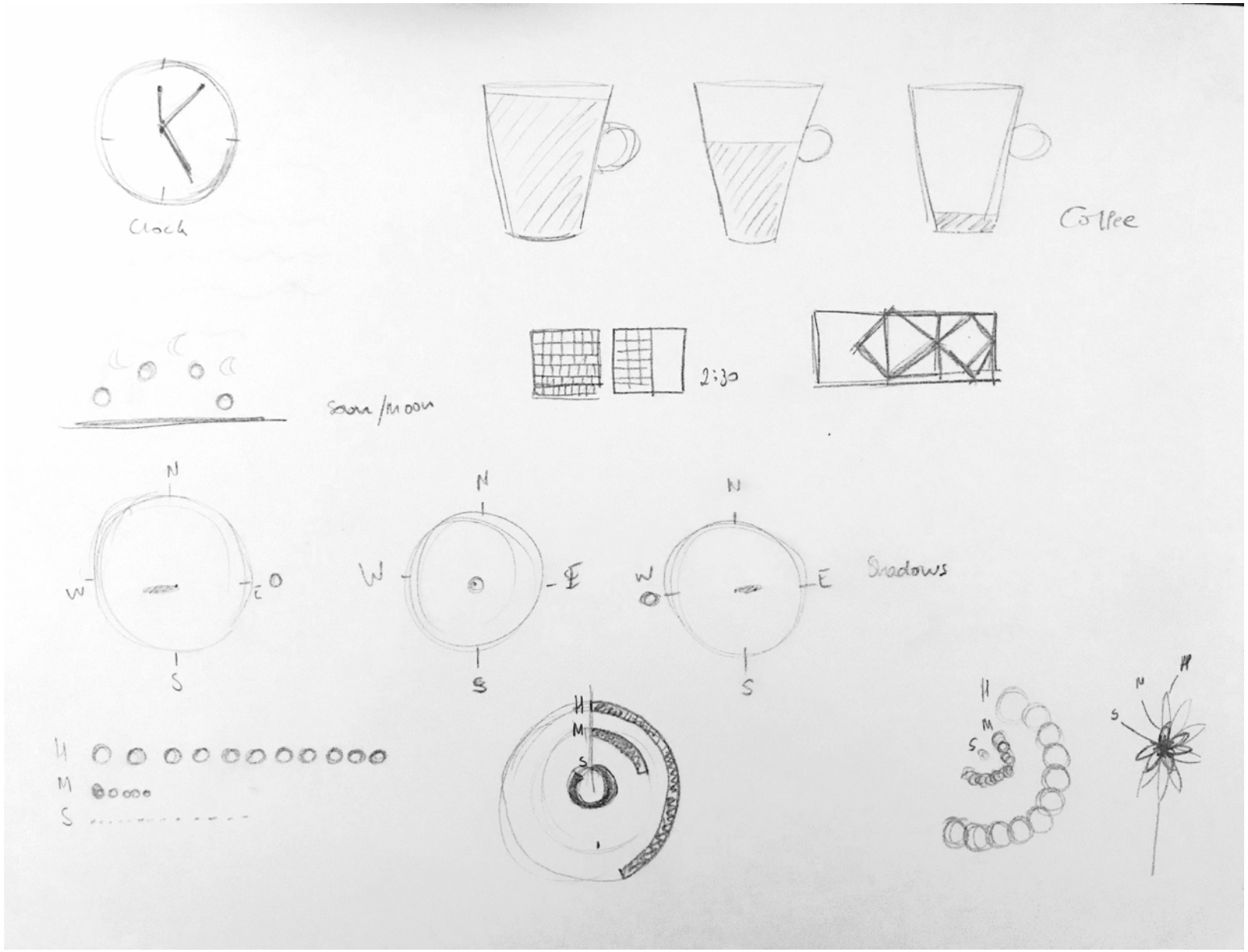
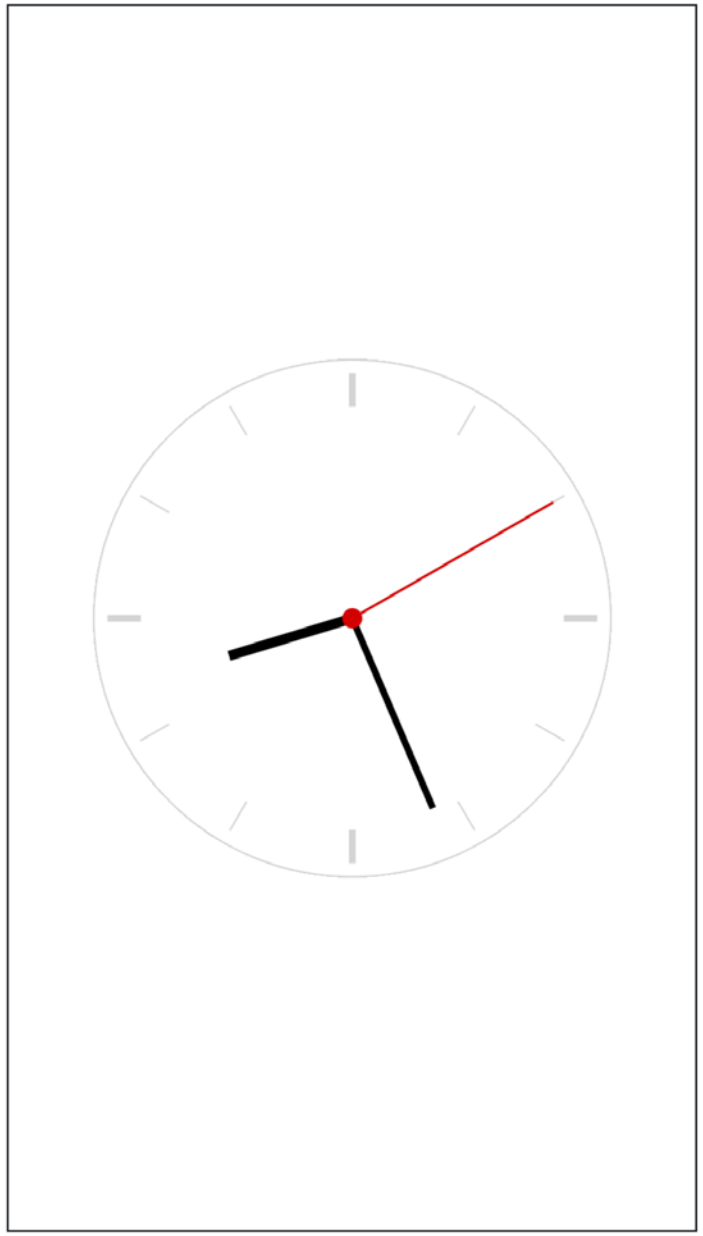
PROCESS

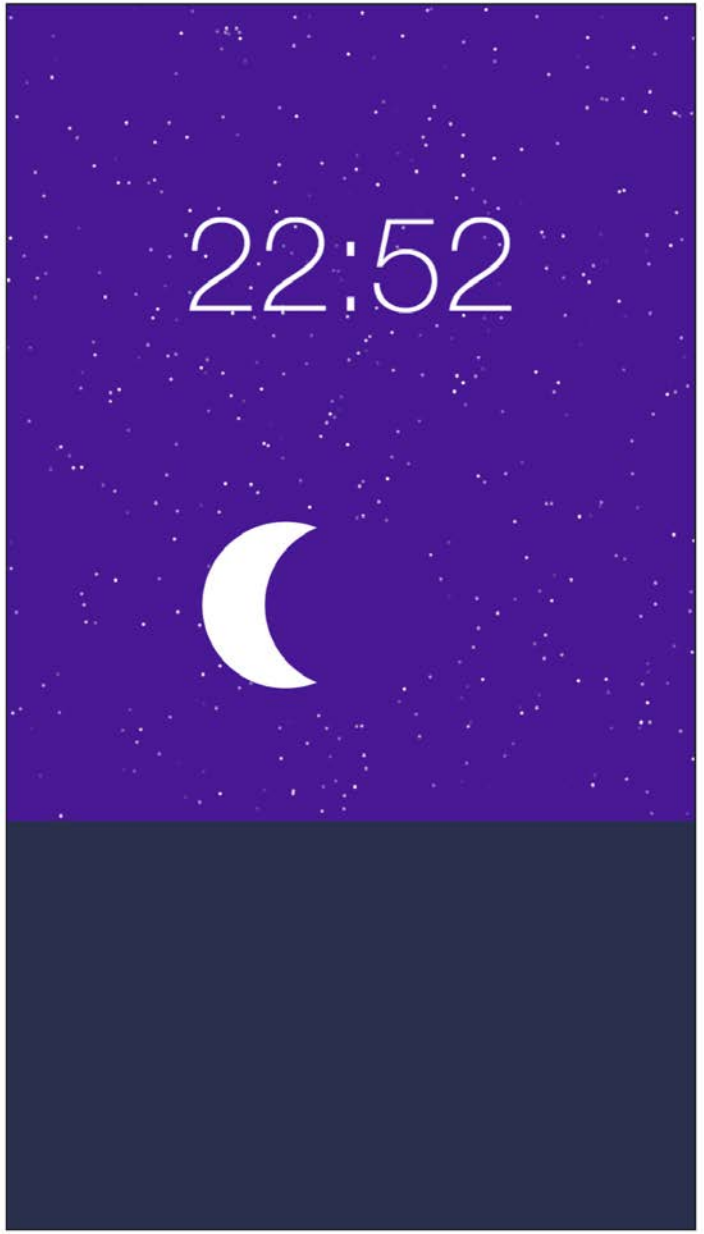
Work individually.

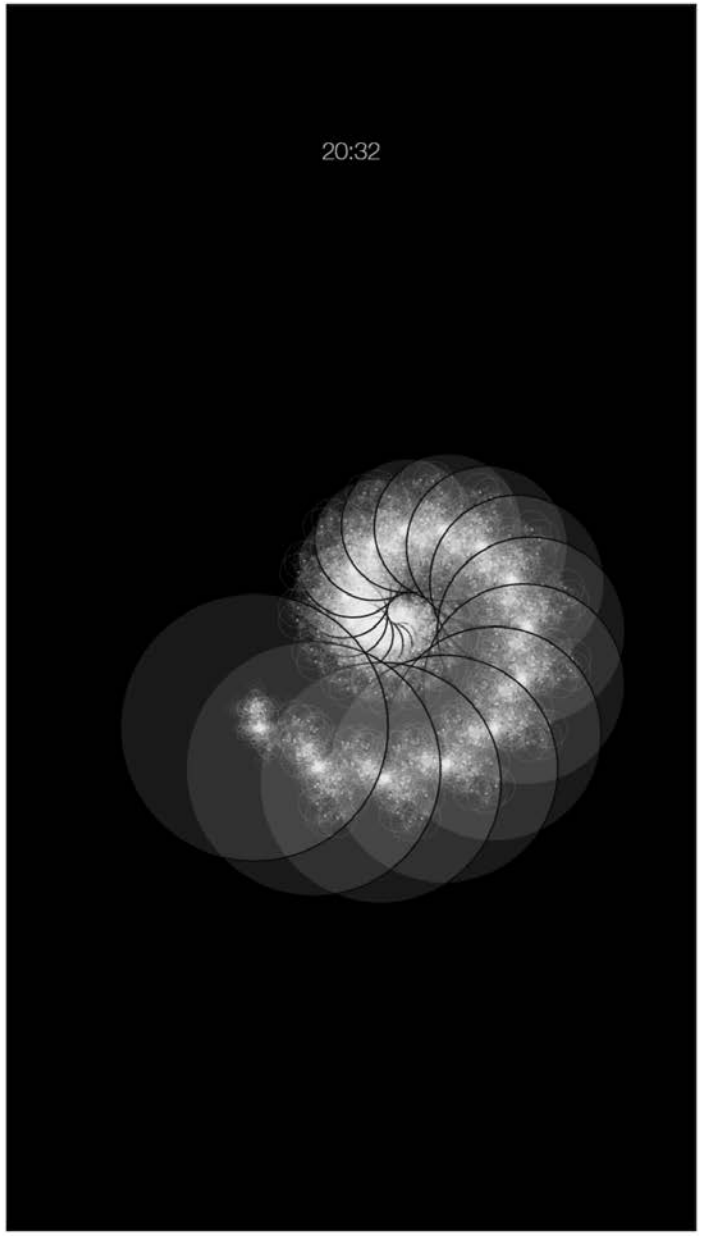
Create twenty sketches on paper, then select 3 to pursue.

Draw them with JavaScript.


Clock
Coffee
2:30
Sun/Moon
N
W
E
S
Shadows
H
M
S




22:52


20:32

Project 1 — Visualizing time

REQUIREMENTS

- Download and install Git, and WebStorm / Sublime Text / Brackets

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- Use the GitHub repository MIT-Information-Design-and-Visualization . Clone the files on your own computer and work with the files.

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- Complete exercise by uploading it on GitHub by Feb 14

Project 1 — Visualizing time

REQUIREMENTS

- Use HTML, CSS and JavaScript. You can choose how to draw the sketches: using canvas, d3.js, P5.js, etc.

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- The visualization should be optimized for viewing on a mobile device: approximately 414 x 736 pixels.

Setting up GitHub

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3. Go to the class' repository
   https://github.com/irenedelatorre/MIT-Design-Studio-Information-and-Visualization

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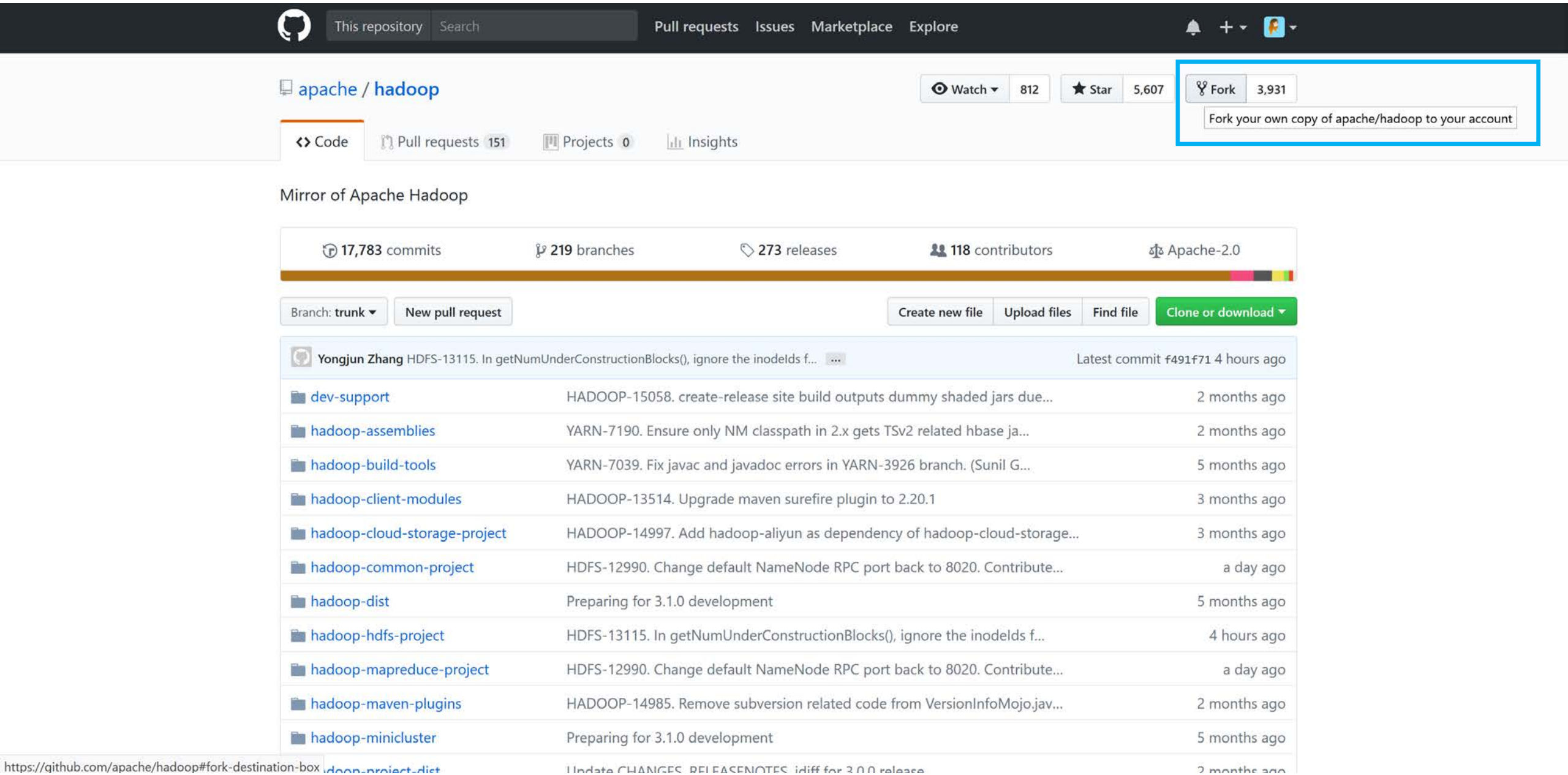
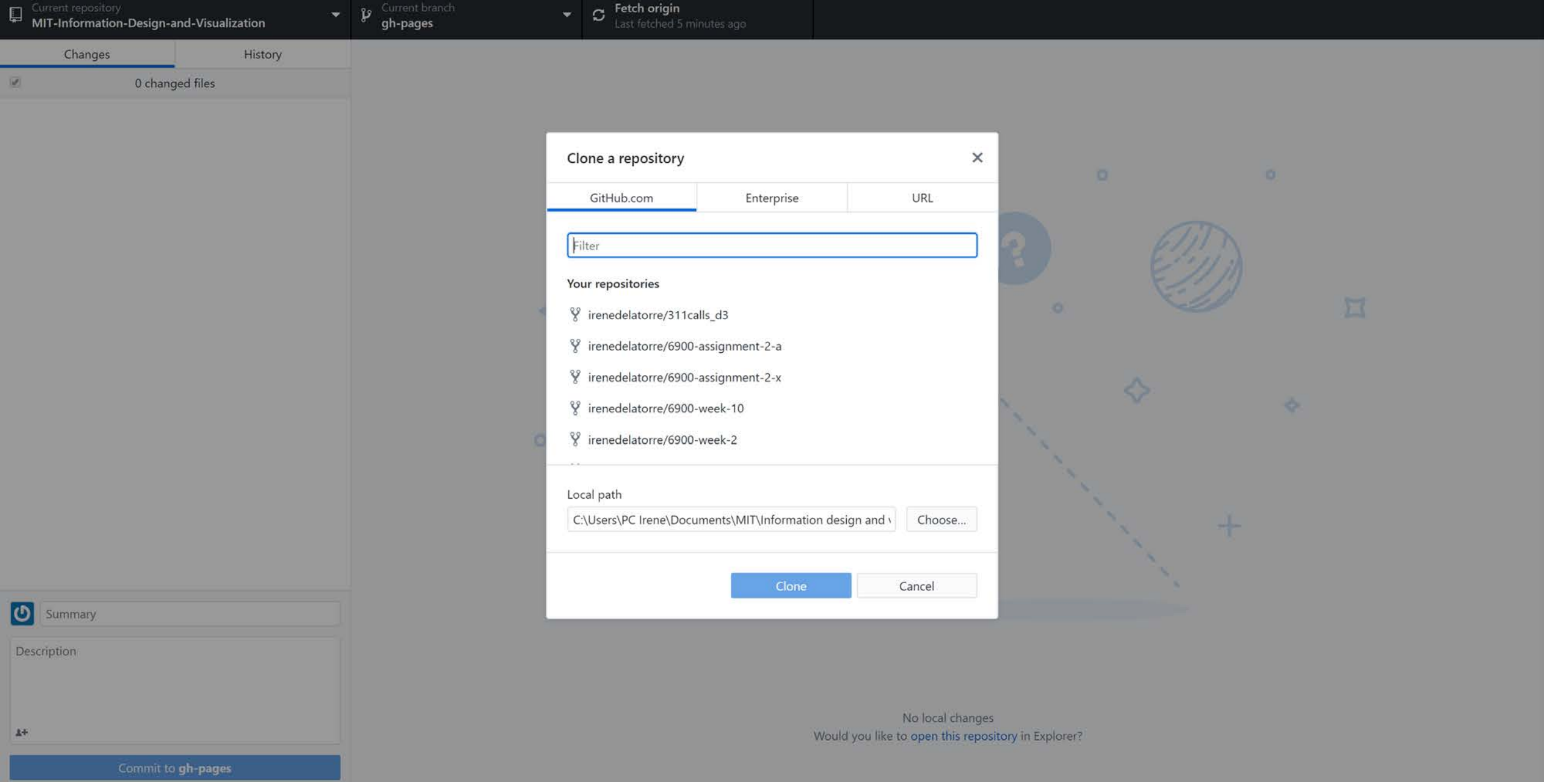
4. Fork the repository.
   It will copy the files in your own profile


This repository
Search
Pull requests
Issues
Marketplace
Explore
apache / hadoop
Watch 812
Star 5,607
Fork 3,931
Fork your own copy of apache/hadoop to your account
Code
Pull requests 151
Projects 0
Insights
Mirror of Apache Hadoop
17,783 commits
219 branches
273 releases
118 contributors
Apache-2.0
Branch: trunk
New pull request
Create new file
Upload files
Find file
Clone or download
Yongjun Zhang HDFS-13115. In getNumUnderConstructionBlocks(), ignore the inodeIds f...
Latest commit f491f71 4 hours ago
dev-support HADOOP-15058. create-release site build outputs dummy shaded jars due... 2 months ago
hadoop-assemblies YARN-7190. Ensure only NM classpath in 2.x gets TSv2 related hbase ja... 2 months ago
hadoop-build-tools YARN-7039. Fix javac and javadoc errors in YARN-3926 branch. (Sunil G... 5 months ago
hadoop-client-modules HADOOP-13514. Upgrade maven surefire plugin to 2.20.1 3 months ago
hadoop-cloud-storage-project HADOOP-14997. Add hadoop-aliyun as dependency of hadoop-cloud-storage... 3 months ago
hadoop-common-project HDFS-12990. Change default NameNode RPC port back to 8020. Contribute... a day ago
hadoop-dist Preparing for 3.1.0 development 5 months ago
hadoop-hdfs-project HDFS-13115. In getNumUnderConstructionBlocks(), ignore the inodeIds f... 4 hours ago
hadoop-mapreduce-project HDFS-12990. Change default NameNode RPC port back to 8020. Contribute... a day ago
hadoop-maven-plugins HADOOP-14985. Remove subversion related code from VersionInfoMojo.jav... 2 months ago
hadoop-minicluster Preparing for 3.1.0 development 5 months ago
https://github.com/apache/hadoop#fork-destination-box

Setting up GitHub

1. Go to GitHub Desktop, log in with your user, and
    - Go to File - Clone Repository
    - Search for yourUserName/MIT-Design-Studio-Information-and-Visualization
      It will copy all the files of your online repository to your computer


Current repository
MIT-Information-Design-and-Visualization
Current branch
gh-pages
Fetch origin
Last fetched 5 minutes ago
Changes
History
0 changed files
Summary
Description
Commit to gh-pages
Clone a repository
GitHub.com
Enterprise
URL
Filter
Your repositories
irenedelatorre/311calls_d3
irenedelatorre/6900-assignment-2-a
irenedelatorre/6900-assignment-2-x
irenedelatorre/6900-week-10
irenedelatorre/6900-week-2
Local path
C:\Users\PC Irene\Documents\MIT\Information design and
Choose...
Clone
Cancel
No local changes
Would you like to open this repository in Explorer?

Setting up GitHub

1. Go to GitHub Desktop, log in with your user, and

   - Go to File - Clone Repository
   - Search for yourUserName/MIT-Design-Studio-Information-and-Visualization
     It will copy all the files of your online repository to your computer

2. Once you have worked with the files, and modified them, GitHub Desktop will keep track of your changes. In order for you to save them in the online repository, you need to commit those changes.

File Edit View Repository Branch Help

Current repository
MIT-Design-Studio-Information-and-Visualization

Current branch
gh-pages

Fetch origin
Last fetched a minute ago

Changes ● History

2 changed files

.idea\workspace.xml

index.html

Added link for canvas tutorial

Description

Commit to gh-pages

.idea\workspace.xml

```
@@ -2,7 +2,7 @@
 <project version="4">
   <component name="ChangeListManager">
     <list default="true" id="514f55db-d98e-43e2-9f16-cba590890d12" name="Default" comment="">
-      <change type="MODIFICATION" beforePath="$PROJECT_DIR$/.idea/workspace.xml" afterPath="$PROJECT_DIR$/.idea/workspace.xml" />
+      <change type="MODIFICATION" beforePath="$PROJECT_DIR$/index.html" afterPath="$PROJECT_DIR$/index.html" />
     </list>
     <ignored path="$PROJECT_DIR$/.tmp/" />
     <ignored path="$PROJECT_DIR$/temp/" />
@@ -30,20 +30,20 @@
           </provider>
         </entry>
       </file>
-      <file leaf-file-name="index.html" pinned="false" current-in-tab="false">
+      <file leaf-file-name="index.html" pinned="false" current-in-tab="true">
         <entry file="file://$PROJECT_DIR$/index.html">
           <provider selected="true" editor-type-id="text-editor">
-            <state relative-caret-position="1160">
-              <caret line="29" column="12" lean-forward="false" selection-start-line="29" selection-start-column="12" selection-end-line="29" selection-end-column="12" />
+            <state relative-caret-position="1040">
+              <caret line="26" column="46" lean-forward="false" selection-start-line="26" selection-start-column="46" selection-end-line="26" selection-end-column="46" />
               <folding />
             </state>
           </provider>
         </entry>
       </file>
-      <file leaf-file-name="style.css" pinned="false" current-in-tab="true">
+      <file leaf-file-name="style.css" pinned="false" current-in-tab="false">
         <entry file="file://$PROJECT_DIR$/style.css">
           <provider selected="true" editor-type-id="text-editor">
-            <state relative-caret-position="683">
+            <state relative-caret-position="760">
               <caret line="19" column="19" lean-forward="false" selection-start-line="19" selection-start-column="19" selection-end-line="19" selection-end-column="19" />
               <folding />
             </state>
```

Setting up GitHub

1. However, with committing the changes is not enough. After that, you will need to push the changes. Only then the changes will appear in your online repository.

File Edit View Repository Branch Help

Current repository
MIT-Design-Studio-Information-and-Visualization

Current branch
gh-pages

Push origin
Last fetched just now
1

Changes | History

0 changed files

Summary

Description

Commit to gh-pages

Committed just now

Undo

No local changes
Would you like to open this repository in Explorer?

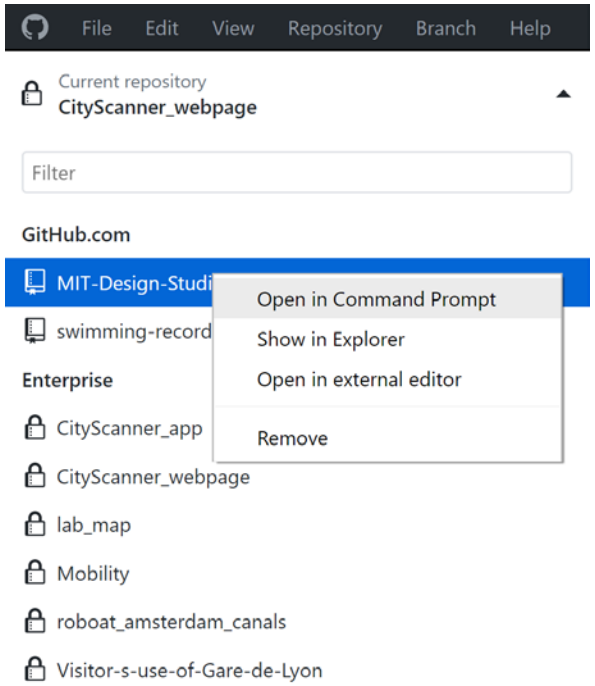
Setting up GitHub

1. However, with committing the changes is not enough. After that, you will need to push the changes. Only then the changes will appear in your online repository.

2. GitHub also gives you the possibility of creating branches, where the code might be different – imagine that you want to test some code without losing the original one. Later, you can merge those branches together.

Updating your repository from the original fork

1. You can do this either by installing Git Bash or by right clicking your repository and selecting Open in Command Prompt


File
Edit
View
Repository
Branch
Help
Current repository
CityScanner_webpage
Filter
GitHub.com
MIT-Design-Studi
swimming-record
Enterprise
CityScanner_app
CityScanner_webpage
lab_map
Mobility
roboat_amsterdam_canals
Visitor-s-use-of-Gare-de-Lyon
Open in Command Prompt
Show in Explorer
Open in external editor
Remove

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- Change the current working directory to your local project.

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2. Change the current working directory to your local project.

3. Fetch the branches and their respective commits from the upstream repository. Commits to master will be stored in a local branch, upstream/master.

   Write git fetch upstream

```
$ git fetch upstream
remote: Counting objects: 75, done.
remote: Compressing objects: 100% (53/53), done.
remote: Total 62 (delta 27), reused 44 (delta 9)
Unpacking objects: 100% (62/62), done.
From https://github.com/ORIGINAL_OWNER/ORIGINAL_REPOSITORY
 * [new branch]      master     -> upstream/master
```

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4. Check out your fork's local master branch (or the branch that you want to update).
   Write git checkout master

```
$ git checkout master
Switched to branch 'master'
```

Updating your repository from the original fork

1. Merge the changes from upstream/master into your local master branch. This brings your fork's master branch into sync with the upstream repository, without losing your local changes.
   Write git merge upstream/master

```
$ git merge upstream/master
Updating a422352..5fdff0f
Fast-forward
 README                    |    9 -------
 README.md                 |    7 ++++++
 2 files changed, 7 insertions(+), 9 deletions(-)
 delete mode 100644 README
 create mode 100644 README.md
```

Updating your repository from the original fork

1. Merge the changes from upstream/master into your local master branch. This brings your fork's master branch into sync with the upstream repository, without losing your local changes.
   Write git merge upstream/master

2. If your local branch didn't have any unique commits (to be push), Git will instead perform a "fast-forward“.

```
$ git merge upstream/master
Updating 34e91da..16c56ad
Fast-forward
 README.md                  |    5 +++--
 1 file changed, 3 insertions(+), 2 deletions(-)
```

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   Write git merge upstream/master

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3. Syncing your fork only updates your local copy of the repository. To update your fork on GitHub, you must push your changes.