



Git OSS-um Design Review I

Stephen White (Team Lead)

Gary Baker

Van Steinbrenner

Mentor: Ana Steinmacher

Sponsor: Igor Steinmacher

What is Open Source Software?

- Principles:
 - Transparency
 - Open exchange
 - Collaborative participation
 - Community-oriented development
- Licenses, rights to study and change code



Our Client

- Dr. Igor Steinmacher, professor at NAU
- Newcomer assistance in projects:
 - README.md file
 - Issue Tracking
 - Wikis
 - Code of conduct
- FLOSScoach
 - Assists in finding the skills needed to contribute



Solution Overview



Mine



Store



Analyze

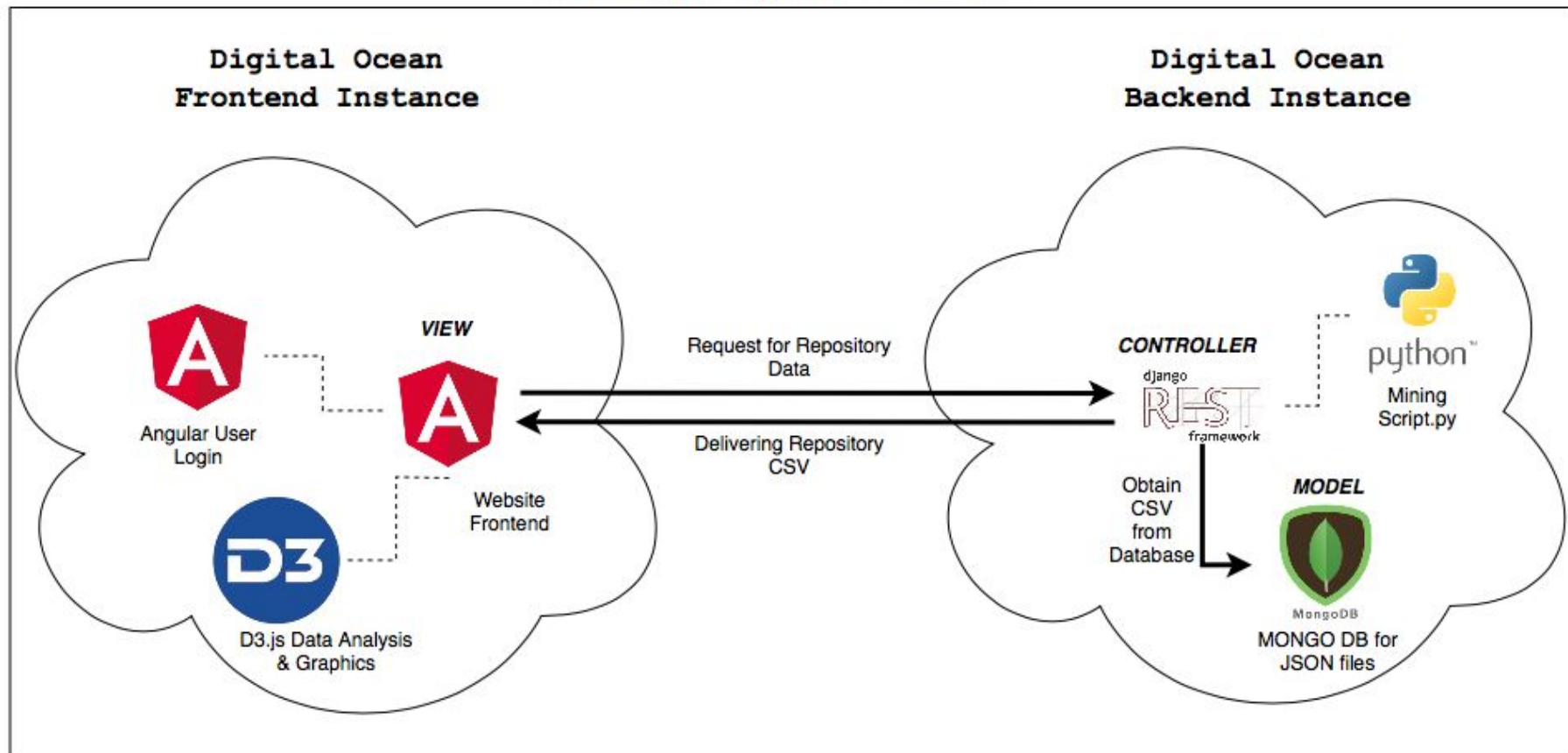


Display



Host

Technology Integration Workflow



Key Requirements

$f(x)$

- Functional
 - Login Services
 - Data Mining From GitHub
 - Data Storage
 - Analyze and Visualize Data
 - Hosted Web Application
- Non-Functional (Performance)
 - Quick Response Times
- Environmental
 - Optimization for Desktop



High Level Key Requirement - Data Mining

The screenshot displays a web application interface with a top navigation bar containing a logo (a sphere with a dollar sign and a vertical line) on the left, a "Nav Bar" input field in the center, and a "Logout" button on the right. Below the navigation bar, the main content area is divided into two sections. On the left is a blue sidebar with "Filters" and "Advanced Options". The "Filters" section includes "Language" with checkboxes for Java, C#, JavaScript, and Python, and "Category" with checkboxes for WebApp, Gaming, Mobile, and Desktop. The "Advanced Options" section has a minus sign icon and eight checkboxes labeled Option1 through Option8. On the right is the "General Search" section, featuring a search input field with a magnifying glass icon and the text "Search...", and a green "Search" button.

The screenshot displays a web application interface for "Manage Repositories". It features a top navigation bar with a logo, a "Nav Bar" input field, and a "Logout" button. Below the navigation bar, the main content area has a "Manage Repositories" title, a search input field with a magnifying glass icon and the text "Search", and a green "Search" button. The main content area contains a table with five rows, each representing a repository. Each row has a text box containing the repository name (Repo 1 through Repo 5), a text box containing a blue "Repo Link" link, and a text box containing the word "Username". At the bottom of the interface, there are three buttons: a green button labeled "Approve Selected Repos for Mining", an orange button labeled "Disapprove Selected Repos for Mining", and a red button labeled "Delete Selected Repos from Database".

Examples of GitHub API JSON Files

```
1 // 20181110140906
2 // https://api.github.com/repos/rails/rails
3
4 {
5   "id": 8514,
6   "node_id": "MDEwO1JlcG9zaXRvcnk4NTE0",
7   "name": "rails",
8   "full_name": "rails/rails",
9   "private": false,
10  "owner": {
11    "login": "rails",
12    "id": 4223,
13    "node_id": "MDEyOk9yZ2FuaXphdGlvbG9yMjM=",
14    "avatar_url": "https://avatars1.githubusercontent.com/u/4223?v=4",
15    "gravatar_id": "",
16    "url": "https://api.github.com/users/rails",
17    "html_url": "https://github.com/rails",
18    "followers_url": "https://api.github.com/users/rails/followers",
19    "following_url": "https://api.github.com/users/rails/following{other_user}",
20    "gists_url": "https://api.github.com/users/rails/gists{gist_id}",
21    "starred_url": "https://api.github.com/users/rails/starred{owner}/{repo}",
22    "subscriptions_url": "https://api.github.com/users/rails/subscriptions",
23    "organizations_url": "https://api.github.com/users/rails/orgs",
24    "repos_url": "https://api.github.com/users/rails/repos",
25    "events_url": "https://api.github.com/users/rails/events{privacy}",
26    "received_events_url": "https://api.github.com/users/rails/received_events",
27    "type": "Organization",
28    "site_admin": false
29  },
30 }
```

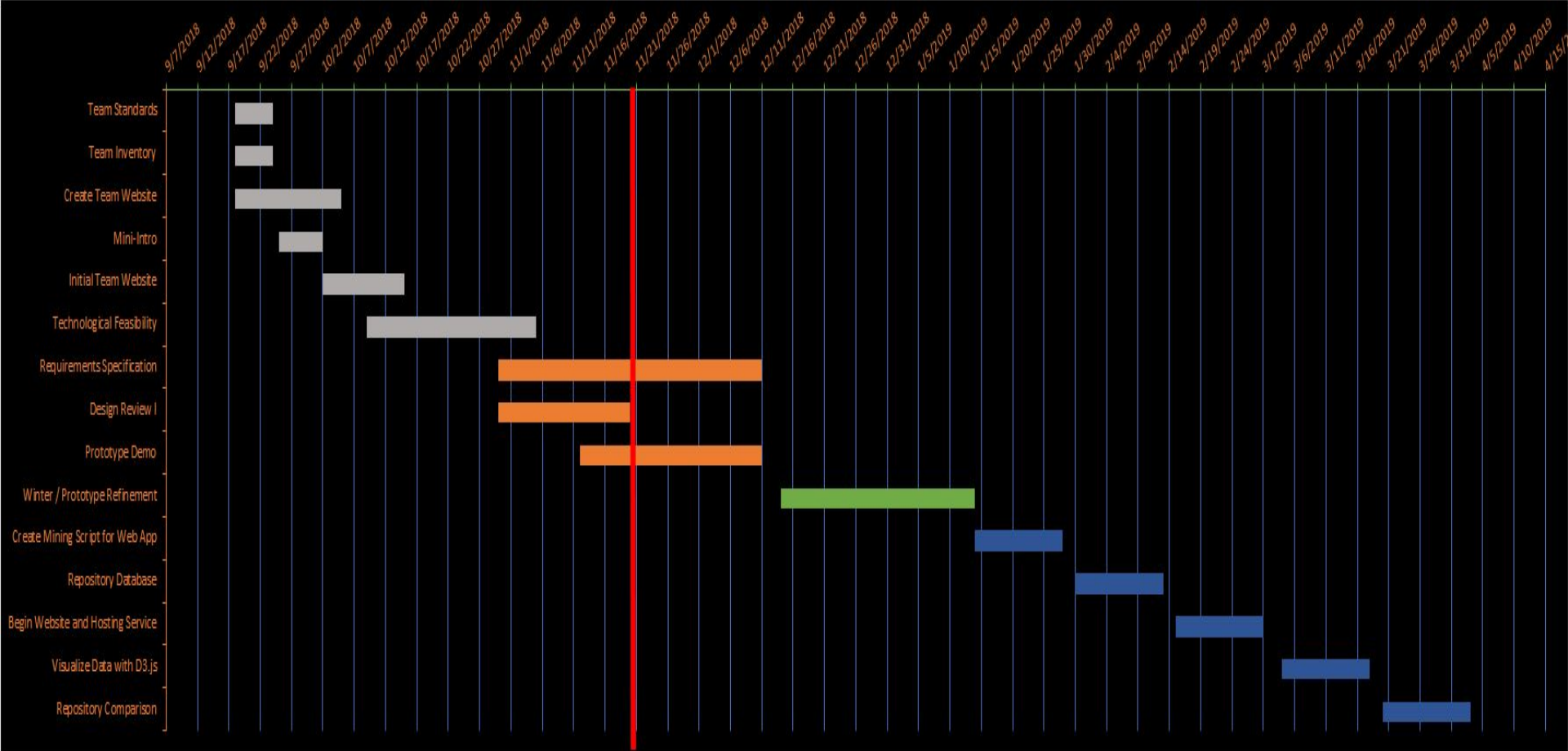
```
1 // 20181110141021
2 // https://api.github.com/repos/rails/rails/pulls/9523
3
4 {
5   "url": "https://api.github.com/repos/rails/rails/pulls/9523",
6   "id": 4411988,
7   "node_id": "MDExO1B1bGxSZXF1ZXN0NDQxMTk4OAA=",
8   "html_url": "https://github.com/rails/rails/pull/9523",
9   "diff_url": "https://github.com/rails/rails/pull/9523.diff",
10  "patch_url": "https://github.com/rails/rails/pull/9523.patch",
11  "issue_url": "https://api.github.com/repos/rails/rails/issues/9523",
12  "number": 9523,
13  "state": "closed",
14  "locked": false,
15  "title": "ActiveSupport::Notifications::Instrumenter#instrument should yield",
16  "user": {
17    "login": "stopdropandrew",
18    "id": 6681,
19    "node_id": "MDQ6VXN1c3Y2ODE=",
20    "avatar_url": "https://avatars1.githubusercontent.com/u/6681?v=4",
21    "gravatar_id": "",
22    "url": "https://api.github.com/users/stopdropandrew",
23  },
24 }
```


Risks & Feasibility

- We provide facts, not opinions
- Repository name changes
- Microsoft changing API
- Errors during data collection



Schedule



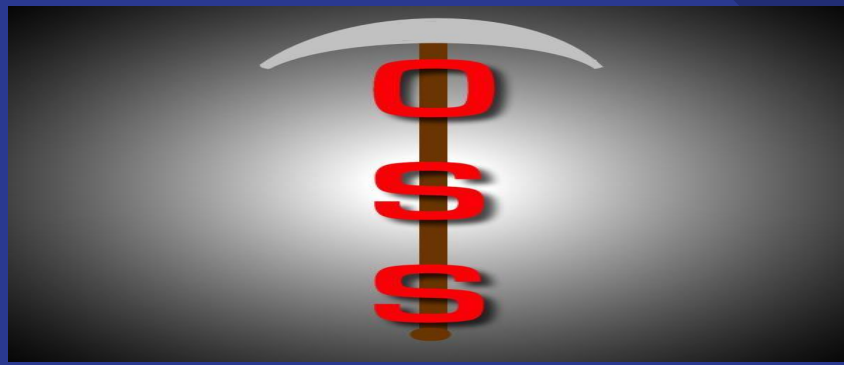


DigitalOcean

Conclusion

- Dynamic web app
- Research with the data
- Mine data with graphics
- Requirements Specifications to prototype
- Bring power to the users





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Smw444@nau.edu