Git OSS-um Design Review I

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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
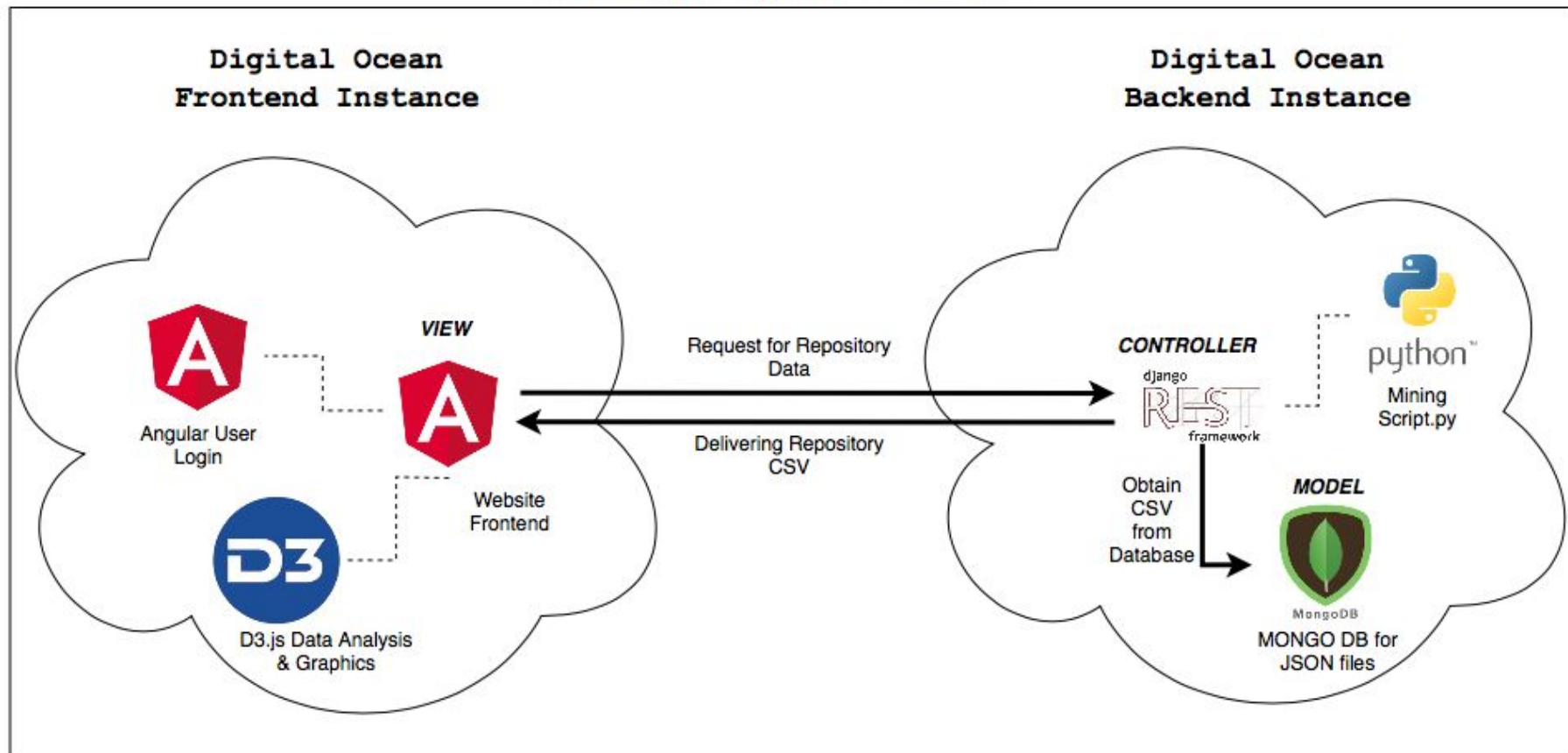
Solution Overview

| Mine | Store | Analyze | Display | Host |

Technology Integration Workflow

Key Requirements

- 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

Examples of GitHub API JSON Files

```
1    // 20181110140906
2    // https://api.github.com/repos/rails/rails
3
4  ▼ {
5      "id": 8514,
6      "node_id": "MDEwOlJlcG9zaXRvcnk4NTE0",
7      "name": "rails",
8      "full_name": "rails/rails",
9      "private": false,
10 ▼    "owner": {
11       "login": "rails",
12       "id": 4223,
13       "node_id": "MDEyOk9yZ2FuaXphdGlvbjQyMjM=",
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     },
```
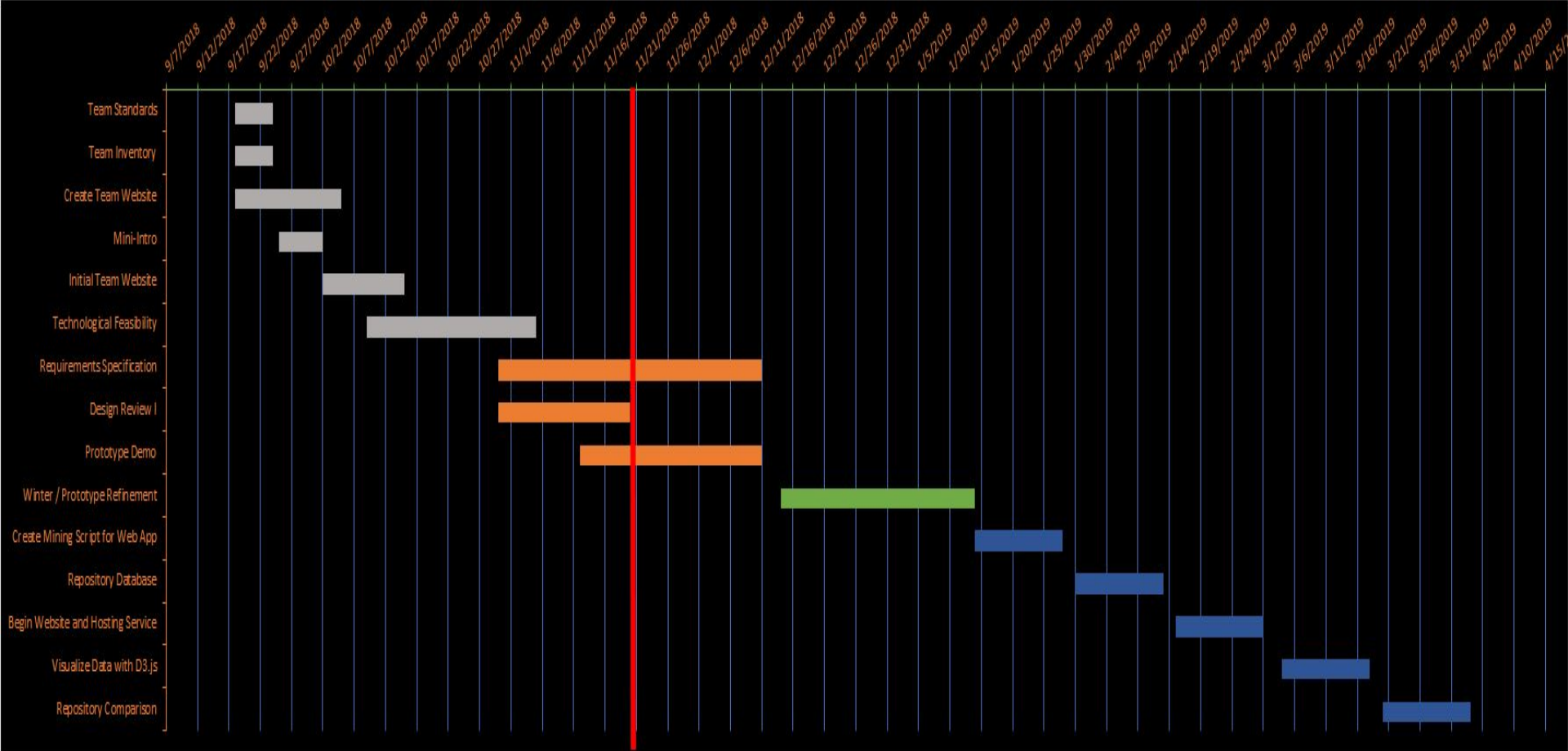
```
1    // 20181110141021
2    // https://api.github.com/repos/rails/rails/pulls/9523
3
4  ▼ {
5      "url": "https://api.github.com/repos/rails/rails/pulls/9523",
6      "id": 4411988,
7      "node_id": "MDExOlB1bGxSZXF1ZXN0NDQxMTk4OA==",
8      "html_url": "https://github.com/rails/rails/pull/9523",
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": "MDQ6VXNlcjY2ODE=",
20       "avatar_url": "https://avatars1.githubusercontent.com/u/6681?v=4",
21       "gravatar_id": "",
22       "url": "https://api.github.com/users/stopdropandrew",
```

Risks & Feasibility

- We provide facts, not opinions

- Repository name changes

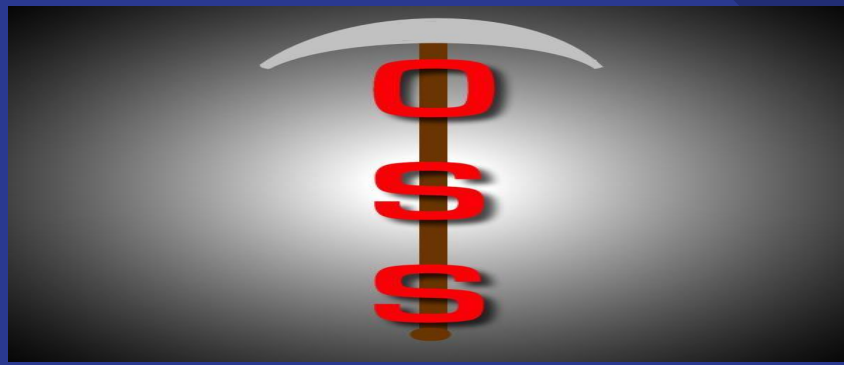- Microsoft changing API

- Errors during data collection

Schedule

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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