



Digest

Github Digest

Document Control

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GitHub Digest

1.0 Overview

Throughout the coding process the team relied heavily on the *GitHub* platform for many key organisational practices related to software development. GitHub is primarily a tool for software version control, but also provides many useful features for managing team software development. Throughout the project the team utilised three main features:

- **Version control.** All code created was stored on the GitHub. This automatically kept track of any changes and kept team members synchronised. This also provided a full history of changes, making roll backs possible if necessary.
- **Branch and merge.** For each feature implemented, a '*branch*' was made from the main code base, allowing the code to be worked on without effecting the main code base in a way that might destabilise it. This also made it easy to track the progress of individual feature implementations.
- **Issue Tracking.** The issue tracking system allowed members of the team to submit '*issues*' against which to reference changes to the code. This allowed every code change to be related to either a feature that was being implemented or a bug that was being fixed. Furthermore this meant that progress with the implementation of a given feature or efforts to fix a given bug could be easily viewed together. Once a feature or bug fix was complete that issue could be closed. Features and bugs were related to iteration milestones, hence the progress towards completing each iteration was automatically measured by the closure of the related issues.

By utilising these three processes the coding efforts could be effectively managed. This simplified the jobs of the Lead Software Developer, the Lead Software Tester and the Specialist Software Developer by allowing them to easily coordinate their work and communicate over specific code elements through the addition of comments. This also allowed the Project Manager to easily see the progress of the coding process.

This document aims to provide a summary of the key data points provided by the GitHub platform, and some analysis of how these values relate to the coding process.

2.0 Metrics

This section presents a summary of the key numerical information that can be gathered from the teams GitHub repository, and some interpretation of the data.

| Measurement | Value | Interpretation |
|-----------------------------|------------------------|---|
| Issues tagged 'bug' | 59 total, 58 closed | The team considered the vast majority of bugs safe to close. |
| Issues tagged 'enhancement' | 68 total, 68 closed | All feature issues were resolved either by being implemented or |
| Pull Requests | 130 total, 5 cancelled | The majority of the pull requests made were verified and used. |

Figure 1 – Summary of simple github progress measurements

3.0 Activity Tracking

Jan 18, 2015 – Jun 4, 2015

Contributions to master, excluding merge commits

Contributions: Commits ▾



Figure 3-1 - Commits against date

Figure 3-1 shows a graph tracking commits against date. Several peaks in activity can be seen. The first two iterations, occurring between January and March are clearly identified by the first two peaks. There is then a period of very little activity during the Easter holidays. Activity resumes after the holiday but then decreases again during exam season. The end of iteration 3 in May sees a large spike in activity, as expected. This graph therefore verifies the iterative nature of the coding process.

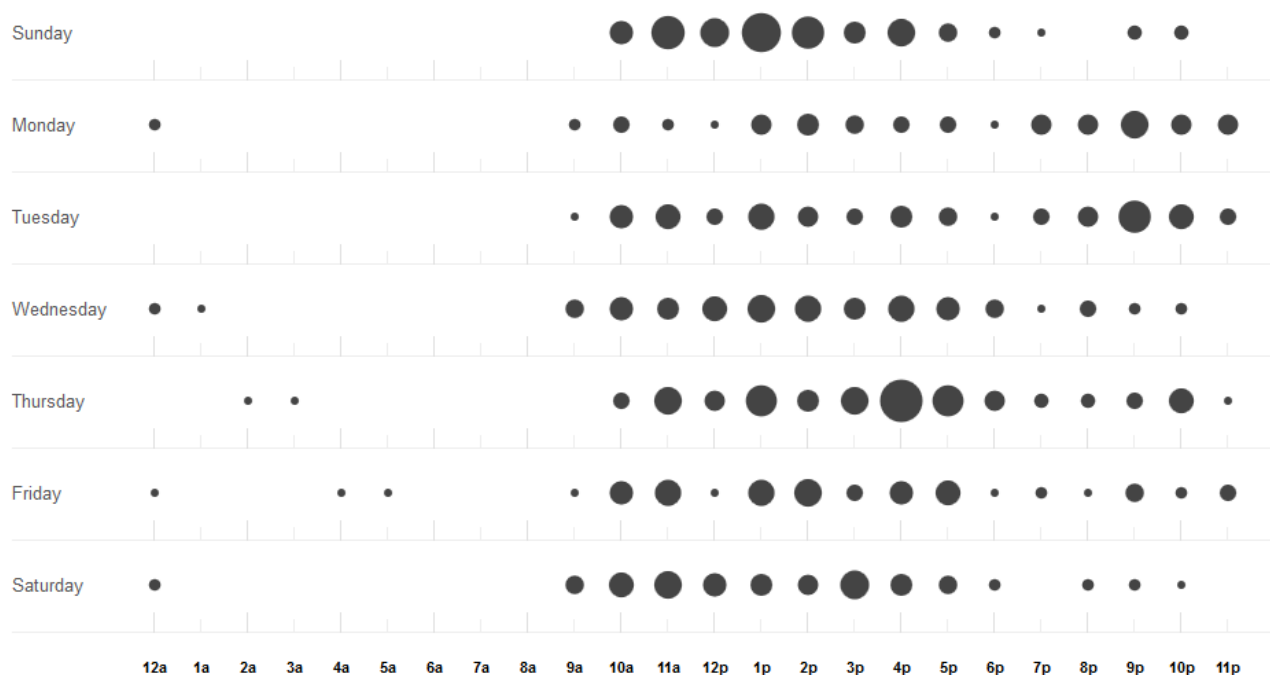


Figure 3-2 - Commits by time of day

Figure 3-2 showing the relative frequency of commits by time of day makes it clear that coding was done fairly consistently during regular office hours and more sporadically outside, with Thursday afternoons seeing increased activity due to the scheduled lab sessions.

4.0 Further Information

Much of the information provided by the GitHub platform is not suitable for presentation in document form. Hence for more detail please visit the repository at

<https://github.com/TonyTewsAngels/Dev>

N.B. The name was selected in an attempt to make the repository harder to find.