Camelot Progress Presentation

Software Engineering

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Missouri University of Science and Technology

Camelot

Camelot is an asynchronous *Python3* server, using *PostgreSQL* for the database.

Camelot Inspiration

Figure 1: ”On second thought, let’s not go to Camelot. ’Tis a silly place.” — Arthur, Monty Python

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Below are some of the things has worked well for us up to this point.

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Tools By picking some of the best tools (Github, LaTeX, PostgreSQL), it has made for a much better workflow.

Past Changes

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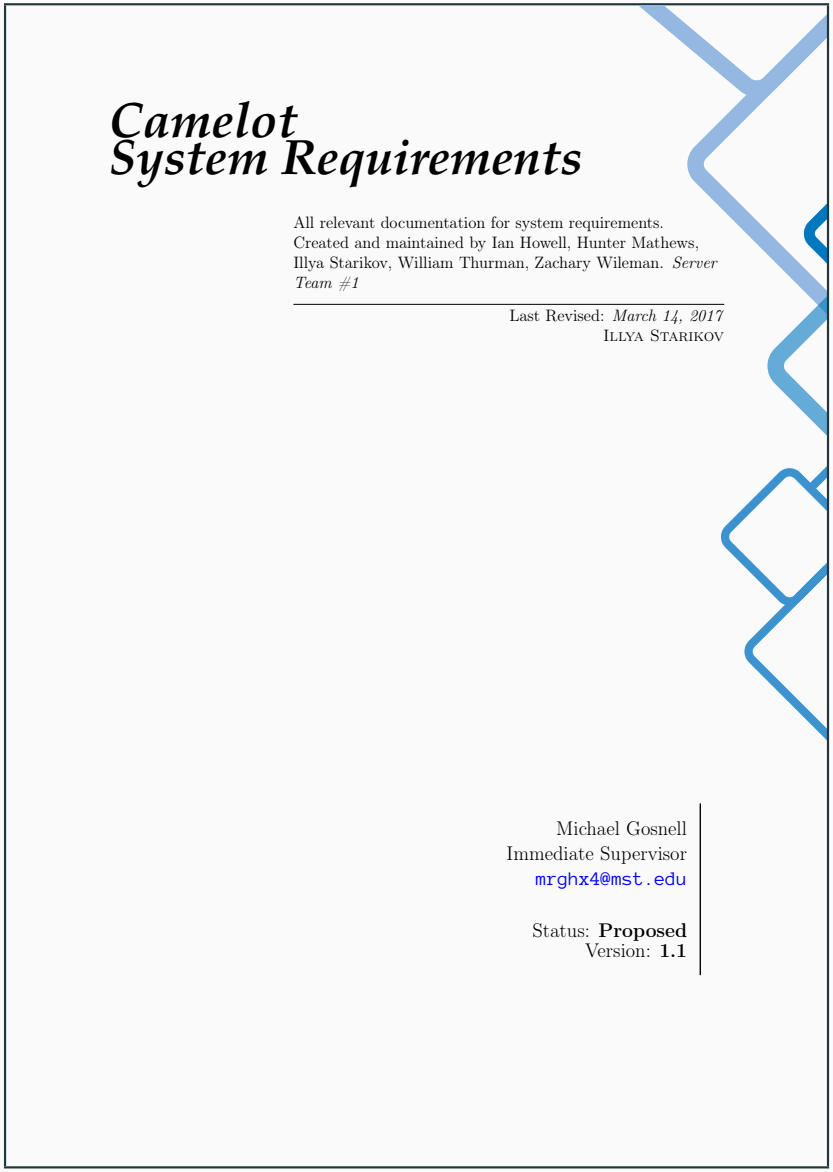
Tools I

A summary of some of the tools we're using/enjoying.

- Written in Python3.
  - Documentation is written in Doxygen.
- All development is on Github.
  - Git for version history.
  - Github issues/milestones for task management.
  - Contributions to make sure even workload.
- All documentation/presentation is written in LaTeX.
- Using ProgreSQL for the database.
- Using Discord for team/client chat.

Tools II

LaTeX makes documentation look professional.



Camelot
System Requirements

All relevant documentation for system requirements.
Created and maintained by Ian Howell, Hunter Mathews, Illya Starikov, William Thurman, Zachary Wileman. *Server Team #1*

Last Revised: *March 14, 2017*
Illya Starikov

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Status: **Proposed**
Version: **1.1**

Tools III

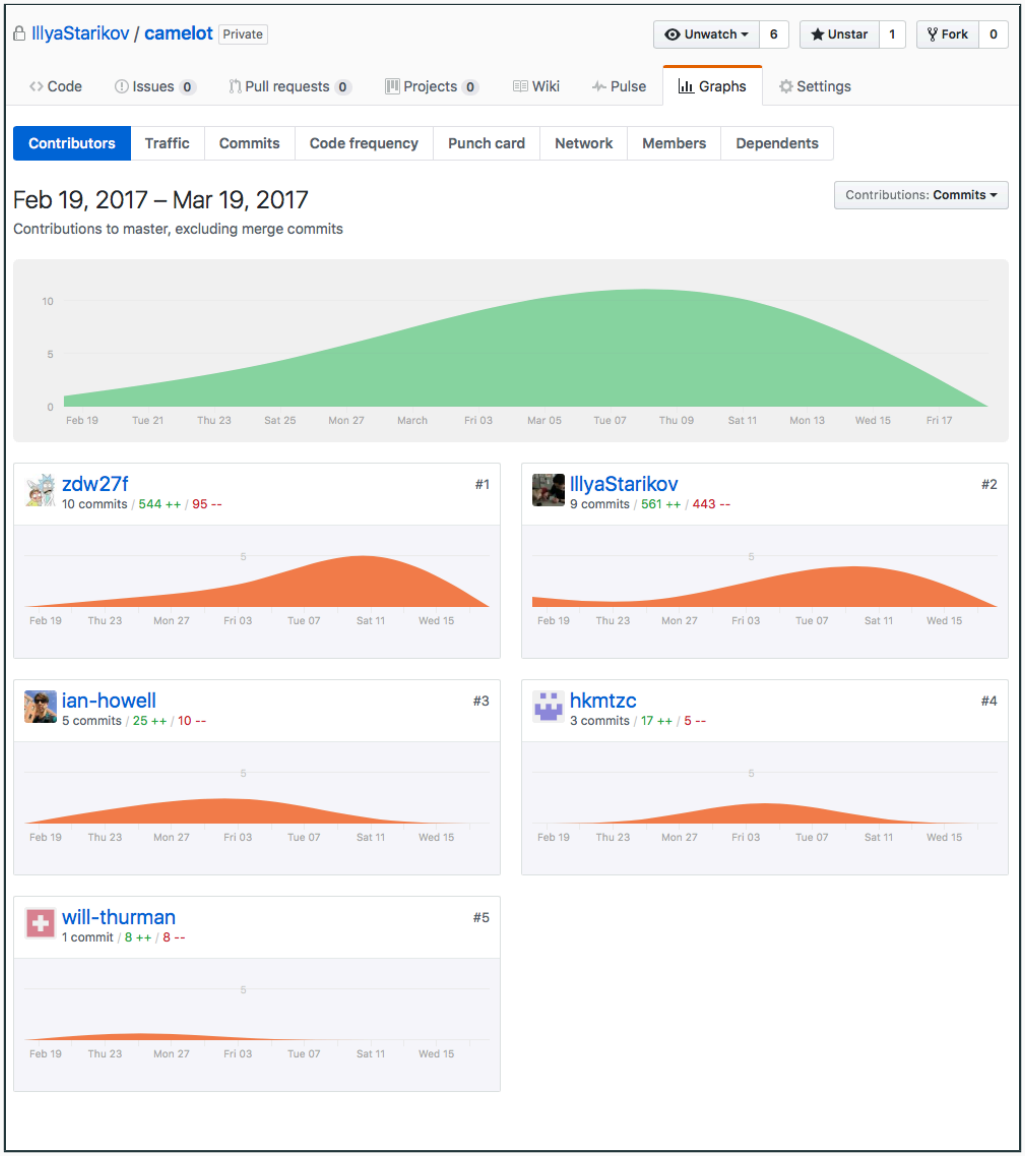
Python enables easy server setup.

```
    def main():
        server = ThreadedTCPServer(("0.0.0.0", 9009), ThreadedTCPRequestHandler)
        ip, port = server.server_address
        server.socket.listen(10)

        server_thread = threading.Thread(target=server.serve_forever)
        server_thread.dameon = True
        server_thread.start()
        print("Server loop running in thread:", server_thread.name)

        try:
            # Loop forever
            while True:
                pass
        except KeyboardInterrupt:
            print("Cleaning up server....")
            server.shutdown()
            server.server_close()
            print("Done! Goodbye")
```

Server Demo

Tools IV

Github keeps track of all contributions from team members.



Challenges

We have encountered three big challenges so far.

1. Communication between the client and server teams.

Description & Solution

Even though we have an established system has been established between the teams (Discord), there is little to no talk to client and server teams. *Solution: Communicate more..?*

Challenges

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1. Communication between the client and server teams.
2. Direction and vision of the product.

Description & Solution

Although there is an established, core vision (IRC clone), working out the detail has proven to be difficult. *Solution: Break it down to basic principles and work with teammates.*

Challenges

We have encountered three big challenges so far.

1. Communication between the client and server teams.
2. Direction and vision of the product.
3. Learning curve of tools, teammates, and project.

Description & Solution

Because we're relatively new to each other, and are unaware of each other's skill sets, assigning tasks becomes tricky. Also learning how to implement new things can be difficult. *Always be sure teammates are comfortable with the tasks they're given.*

Extras

- Encryption.
  - Still debating if we'll be using ROT13 (znlor vs jr tvg thq, jr'yy hfr EBG26.) or an in-house, post-quantum cryptographic hash function using a multivariate-quadratic public-key signature system.
- Open source

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- Open source at the end of the semester.
- Full documentation guide courtesy of Doxygen.

Current and Future Plans

1. Consolidate the client and server teams to get unified protocol and systems specification document.
2. Finish coding the actual chatroom.
    - Server
    - Database
    - Script to automate a chatroom environment
3. Finish documenting the chatroom (possibly API guide).

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4. . . .
5. Profit

In Closing

Spam Illya with all questions, comments, and insults.

- @IllyaStarikov
- starikov@mst.com

Special thanks to our awesome team.

- Ian Howell
- Hunter Mathews
- Illya Starikov
- William Thurman
- Zachary Wileman