

MICHIGAN STATE

UNIVERSITY

Project Plan

Twitch.tv Additions

The Capstone Experience

Team Amazon

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*From Students...
...to Professionals*

Functional Specifications

- Goal: improve the user experience of reading and interacting with Twitch.tv stream and chat
- Rank chat messages by popularity for at-a-glance evaluation of chat activity
- Use products discussed on stream and in chat to suggest relevant advertisements on Amazon.com
- Encourage advertisement visits by displaying how many viewers of a stream have visited it



Design Specifications

- Top comments section
 - Variable number of comments
- Amazon featured advertisement
 - Popularity bar
- Maintain UI familiarity
- Extension options
 - Toggle comment censorship
 - Comment refresh rate options



Screen Mockup: Twitch Stream

twitch

Search

xianheroolz

Profile

Following

Messages

BROWSE

Games

Channels

Videos

FOLLOWED GAMES

You can now follow your favorite games!

Find out more!

About Blog Help Developers

League of Legends Stream

Valkrin playing League of Legends

VALKRIN

15

Congratulations!

TOP DONATOR

flemmingxd: \$7.00

Sirfild: \$100.00

ANTLION AUDIO

ModMic.com

965 / 600 sub goal for apartment tour

9,524 2,158,466 104,444

Follow Subscribe \$4.99 Share

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1. **GitPwned931** you dead son!

2. **XianheRoolz**

3. **RichHomyCa\$h** ouch...

A48 HEADSET

Kickass1991: did Viktor get Nerfed ?

mrholzi: Isup

Couwooww: @Shyncube359 Report for not attacking teamcomp

Sobethon: Isupport

Valk_Bot: Valkrin recommends these champions for Support: Thresh, Poppy, Trundle, Tahm Kench (Updated as of patch 5.24 01/10/16)

redwallet1: go valkrin

vikms95: hello valk, what are your thoughts about vman??? @valkrin

k7ameet: You are JUNGLE

DasBacon: brand jungle?

k7ameet:

7ReVeR: @Valkrin why do you recommend wukong jungle?

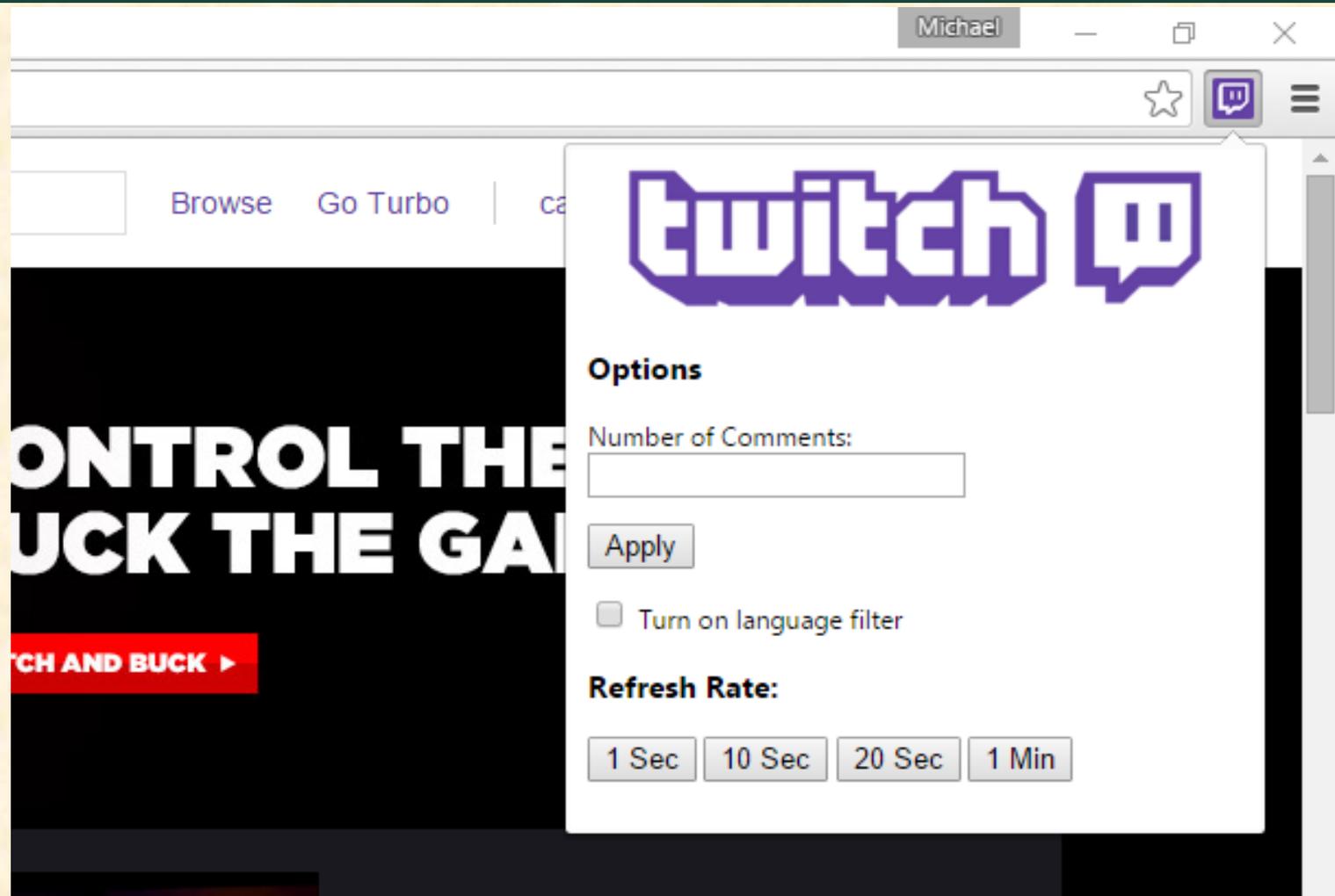
YoloMoonSender: @valkrin udyr jng with devo or ap?

vikms95: hello valk, what are your thoughts about vman??? @valkrin

send a message 😊



Screen Mockup: Chrome Extension

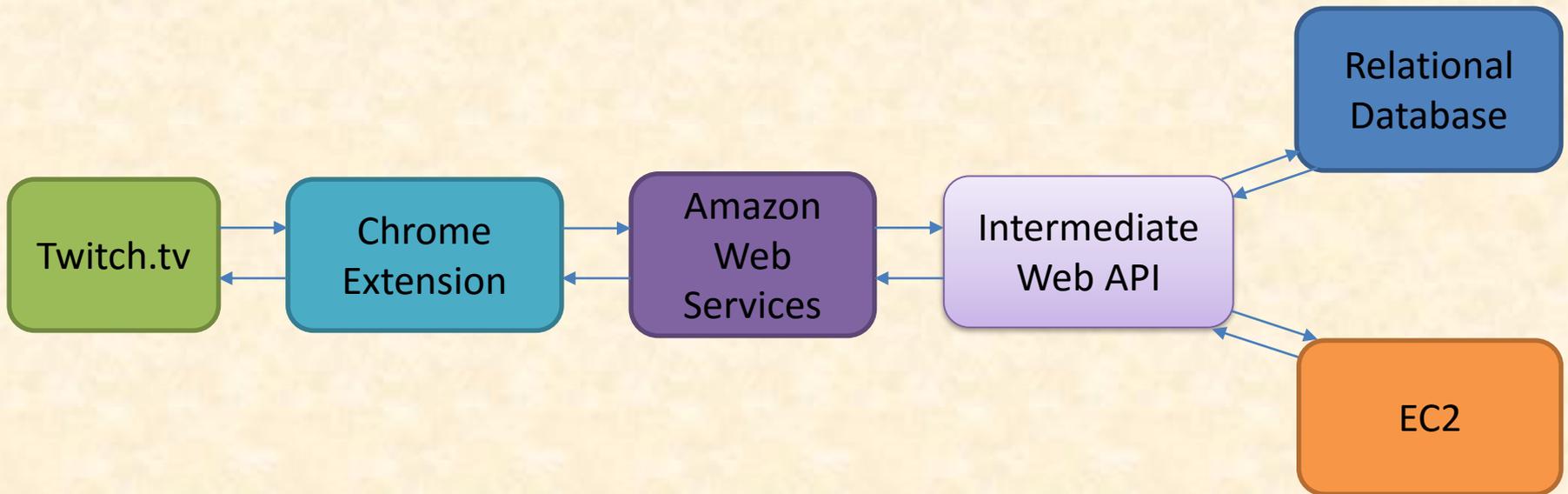


Technical Specifications

- C++ Application to calculate top comments.
- C++ Application to stream channel audio and read chat to generate Amazon.com links.
- Web API written in PHP to serve Google Chrome extension.
- Google Chrome extension queries web API and modifies Twitch.tv UI



System Architecture



System Components

- Hardware Platforms
 - Xen HVM domU
 - 18 cores, 36 threads
 - 64 GB of RAM
- Software Platforms / Technologies
 - Amazon Web Services
 - Visual Studio (C++)
 - PhpStorm (Web Development)
 - MySql Workbench (Database)



Testing

- Ample simulated tests of ranking algorithms
 - Examination of edge cases and large scale data input
- Dogfooding of extension application
 - Feedback and bugs reporting by users
 - Opinions of veteran Twitch users
- Run our own real stream to test extension
 - Speed of modifying our databases
 - Stability of the connection



Risks

- Access to Twitch.tv codebase unknown
 - Assume no access; develop project as an extension
 - Develop with portability to codebase as a priority
- Using stream audio and chat messages for smart advertisement
 - CMU Sphinx
- Drafting algorithm to calculate rankings
 - Find and use fastest AWS server, limit data transfers
 - Analyze runtime and use appropriate data structures

