QREVIEW

By

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Problem Background

Team communication in traditional code review tools slows down the development because of inefficient exchange of messages.

- Lead to wasted development hours

- Need better way to communicate in code review process

Related Research

- Biggest challenge in code review:
  Understand the Code [1]

- Best way to understand code:
  Direct, Instant Communication [1]

- Larger team means:
  Higher Communication Friction [2]

- Current approaches:
  Do not provide smooth enough communication [1]

[1] Bacchelli, Alberto, and Christian Bird. "Expectations, outcomes, and challenges of modern code review." *Proceedings of the 2013 international conference on software engineering*. IEEE Press, 2013.

[2] Porter, Adam, Harvey Siy, and Lawrence Votta. "A review of software inspections." *Advances in Computers*. Vol. 42. Elsevier, 1996. 39-76.
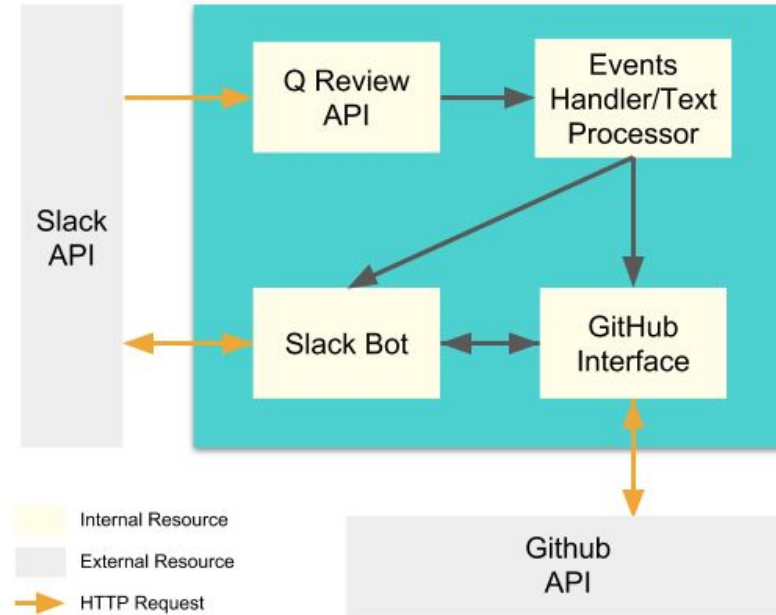
Our Goal

Improve code review efficiency by facilitating team communication.

Our Solution

Architecture

Implementation Progress

Component	Progress	Priority
Events API (Slack Bot)	Finished	1
Text Processing & Response (UI)	Finished	1
GitHub/Phabricator Code Review Integration	Not yet implemented	1
Experimentation	In Progress	2
Slack Channel Creation	In Progress	2
Slack Text Help and Error Response	Finished	2
Slack Directory Registration	Not yet implemented	3
Art, Design, Documentation, etc.	Finished	3
Unknown and Unpredictable	N/A	N/A

Test

Mocha

A feature-rich JavaScript test framework

Istanbul

JavaScript test coverage made simple

CI/CD Pipeline

Commit to Github   Test on Travis CI   Deploy with Heroku

Demo

Metrics and Measurement

- No actual data yet.

- Planned measurement: Response time

- Projected Result:

    ━━━━━━━━   Response time using Qreview

    ━━━━━━━━━   Response time using current approaches

Qualitative Data

- Survey on developers' opinions of current code review process

- Gather feedback on potential improvements

- Introduce Qreview and gather preliminary preference

- Provide option to give report and review when using our tool

Challenges

- Authentication: difficult across multiple accounts and platforms

- Team Collaboration: bottleneck module holds development back

- Measurement: hard to gather large scale data for stronger evidence

Roadmap

- Complete implementation

- Dogfooding within the team

- Register at Slack app directory

- Peer testing

- Measurement and Metrics

Thank You!

Questions?