Design Document Example

Inspiration: Prepared for Plato mentorship program

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Summary

This document outlines why writing a design document fosters collaboration across the organization. And what tool we can utilize to make it easier to peer review.

Context

Based on the meeting with a Plato mentee, we came up with an idea to encourage teams to write down their thoughts in a document. So that in the future, whenever we may need to recall the actual context, we have the document as proof. Also, it helps future team members be on board and understand the past decision better.

Problem statement

(You can choose either Context or Problem statement)

- How can an organization record its current justifications for design or engineering choices?
- How can we bring up the initiative from the bottom-up and let everyone review and comment on the proposals asynchronously without requiring approval?
- How can we foster a culture of open collaboration across the organization?
- How can we document that business choices are made because of necessity, not personal?

Goals

- Write down an example design document
- To express why we need it
- To keep it short

Non-Goals

- To make it perfect

Proposal

This proposal brings out the following changes in the current structure -

Change 1: Write down a document and share it with the peers

After sharing the overall architecture of north-star, senior engineers/managers can discuss with individual teams to ask them to propose their design choices written in a design document shared by Google Docs, Github PR, etc. This practice encourages engineering teams to think and suggest something that they will be deeply rooted for.

Change 2: Inform and involve peers to review and align

There should be a Slack channel where all those design documents are announced for visibility. A team may prefer some selective reviewers (often subject matter experts), including the Senior + engineers.

They can even host a meeting inviting those required reviewers and others as optional guests. You may find curious engineers may join and share their thoughts.

Change 3: Leave breadcrumbs for the future reference

Make sure the document is stored so that we can access or reference it in the future. Also, make sure this document is accessible to everyone in the organization.

Proposed tools for collaboration

Share as a google document.

Assuming the team may have access to the google doc. The engineering team can share their design document through a google doc with various engineers.

Pros
- Easy to access and learn.
- Doesn't need any structure.
- You can easily comment and assign someone to respond.

Cons
- You are on a hook to keep the Google doc service forever :D

Share as a Github PR

The engineering team writes down their design document as a Markdown file in a specific Github repository. You may have a particular directory for a purpose, as shown below. Also, you can set different CODEOWNERS to participate in the mandatory review.

- docs/proposals/infrastructure/
- docs/proposals/product-catalog/
- docs/proposals/inventory/
- docs/proposals/data-pipeline/
- Etc.

Upon successful review, you can conclude this design by merging with the main branch.

Pros
- Assuming we have Github or a similar service.
- You can use CODEOWNERS to require review from a specific team or people.

Cons
- It may not be friendly for non-engineer colleagues to collaborate.

Alternatives

Non-written document with an architecture review committee

You may continue hosting the architectural meeting and play as a gatekeeper to accept or reject ideas. However, as the organization grows, more people in the panel may be required. Please review the following pros and cons
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Pros
- A group understands the engineering changes and involves architecture in the organization.
- A group can recommend or deny an inevitable change that may disrupt the whole architecture.
- It may play a significant role while the core business is still taking shape.
- Doesn’t need any prep. We can speak out and debate.

Cons
- A group has a dictatorial power.
- Doesn’t foster a bottom-up initiative culture.
- Becomes a bottleneck when the organization grows.
- Nothing is mandated to write down. We may not have references for the future.

Open questions

You can add additional questions here to address by the authors.