

GRACE HOPPER CELEBRATION



ANITA
B.ORG

HEALTHY ARCHITECTURE REVIEW FOR STARTUPS

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Find this deck: bit.ly/ghc-design-review

#GHC19

ABOUT ALICE & ALYSSA

o  for 12 years (Alice) + 5 years (Alyssa)

o Alice: Now coaching startups about software engineering best practices

o Alyssa: Eng Director at 

- Joined as person #3 while pregnant
- Was pre-seed, now series-A stage & 13 people



Healthy architecture reviews for startups

1

**Design process theory:
for startups!**

2

Design process practice:

- Design doc HOWTO
- Design review tips

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What is the design process?



REQUIREMENTS

what to build?



DESIGN

facilitate collaboration + solve problems



IMPLEMENTATION

build it!

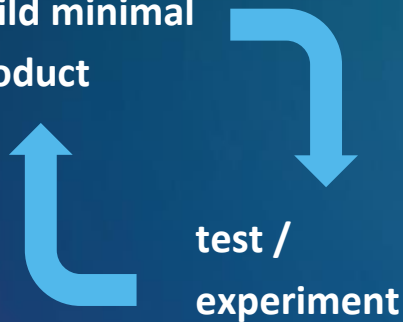
Design process at a startup?!

- Startup vs. large company
- Do we need design process at all?



Design goal #1: focus

build minimal
product



test /
experiment

Design paradox

The design keeps you from
over-designing!

“

The most maintainable code is no code!

”



Design goal #2: collaboration



- Get un-stuck
- Brainstorm simpler solutions
- Divide up work

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Design process practice:

- **Design doc HOWTO**
- **Design review tips**

Design docs: when?

You notice multiple ways to do something, and the “right” way isn’t obvious.

1

2

There are multiple services (or large components) working together.

There is complicated logic or many use-cases.

3

4

There is a lot of work that should be split into smaller tasks for sharing.

Hit ANY of these, *start* a small doc

Design docs: how?

1

Grab a template

- * **Problem statement**
 - Background
- * **Design details**
 - API
 - Test/release plan
 - Options considered

bit.ly/designdoc-template

Based on what we use at Threadloom



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Design docs: how?

You notice multiple ways to do something, and the “right” way isn’t obvious.

1

There are multiple services (or large components) working together.

2

There is complicated logic or many use-cases.

3

There is a lot of work that should be split into smaller tasks for sharing.

4

1. Multiple ways to do something

You notice multiple ways to do something, and the “right” way isn’t obvious.

1

- Write up the options with pros/cons

Option A: Do X

- Pros: pro 1; pro 2
- Cons: con 1; con 2

○

Option B: Do Y

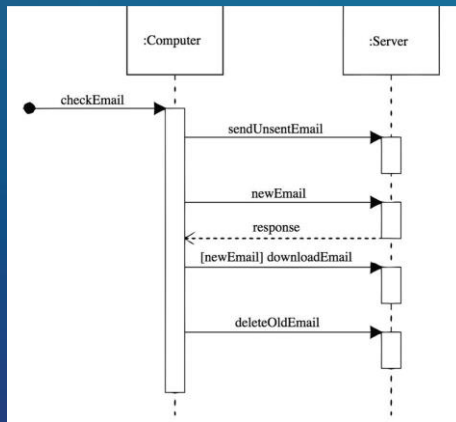
- Pros: pro 1; pro2
- Cons: con 1; con 2

2. Multiple large components

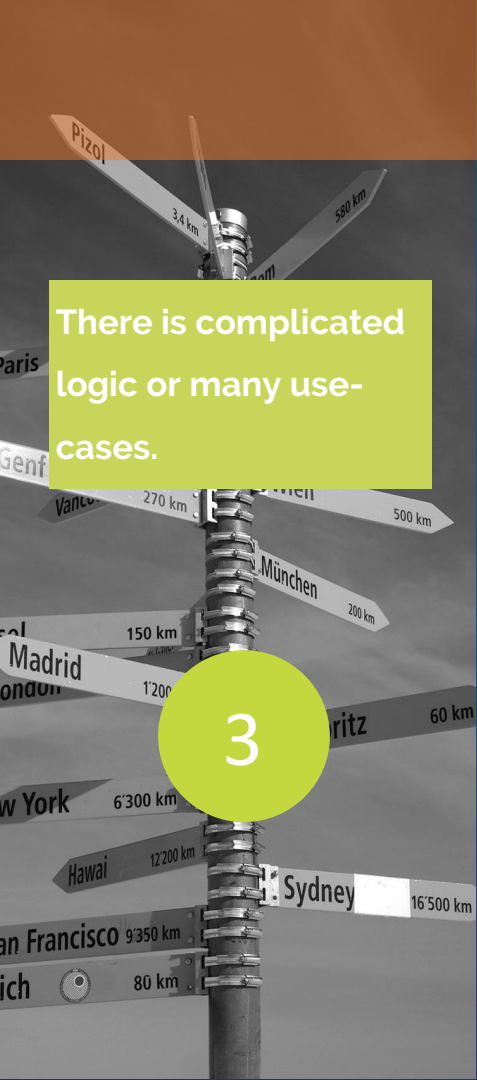
2

There are multiple services (or large components) working together.

- Sketch a high-level diagram (component, sequence, ...)
- Document the APIs



3. Complicated logic



There is complicated logic or many use-cases.

- Make flow diagrams or type out the flow
- Ask: is it over-complicated? Are all use-cases necessary?
- If it's necessary, at least it's now documented when people are confused in the future :)

4. Split into shareable tasks

4

There is a lot of work that should be split into smaller tasks for sharing.

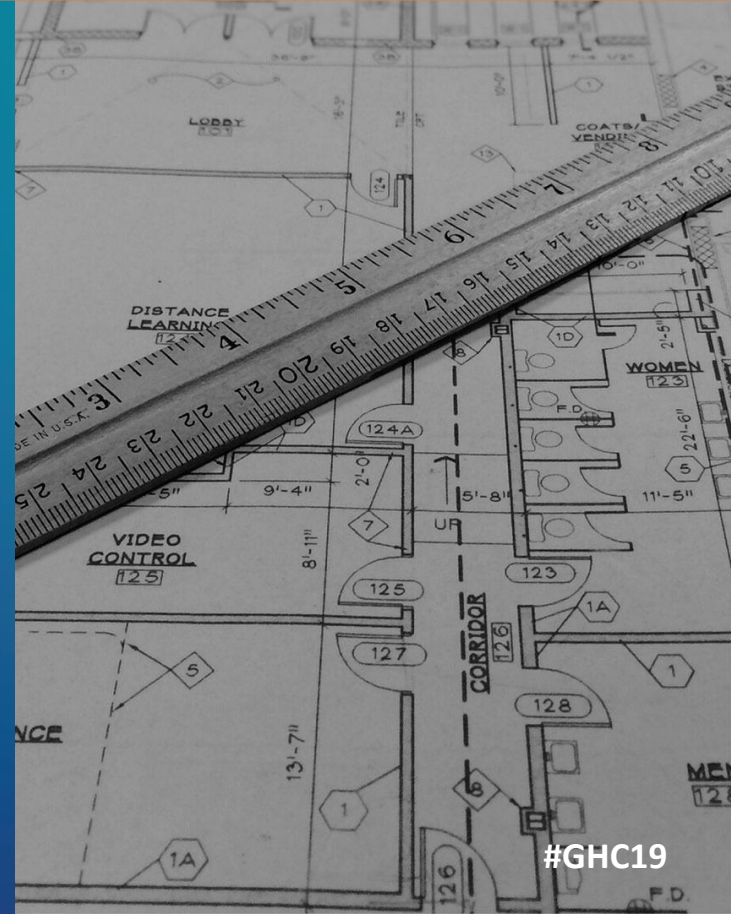
- Sketch the components in a diagram
- Type bulleted list of task breakdown

Review your design doc

- Read through what you've written: is it clear? Need a diagram?
- Have someone take a look, ask questions, *simplify* the design
- Cycle as-needed between adding to your doc and reviewing with teammates

Pitfall: avoid over-designing

- Ruthlessly focus on the specific problem statement
- If you're building an MVP, do not design a fully scaled version
- Add a “parking lot” for future thoughts if you have them



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Design reviews: what and when?



- “Review” in a startup is usually informal chats/comments, can also be a meeting
- Continuously!
- When is a review done?
When team agrees about the next implementation step

Tip #1: Start the review early



1

Do not wait to have figure out all details before asking for feedback

Think of “design review” as a gradual process

Tip #2: Ask clarifying questions



A comment can simply be a question asking a clarification, but make it specific.

2

“I am not sure I understand why this has an impact on latency because it is loading from the same index as before. Could you elaborate?”

Tip #3: Keep it impersonal



3

The review is of the *design*, not a *person*.

When discussing the design: avoid selective ownership terms such as "*mine*", "*yours*".

✗ "*Your design increases latency*"

✓ "*Storing the index on disk seems to increase latency, is this something we're ok with?*"

Tip #4: Who is talking?



4

Team leads, pay attention to who is talking, and try to balance it.

You can ask specific people to give their opinion (offline is fine).

You can also say, “I’d like to hear what others have to say to make sure we’re getting a range of insights.”

Tip #5: Recognize contributions!



5

Add short notes of recognition as reviewer and author.

“Great idea! Thanks, I added it to the doc.”

“Nice diagram, it’s really helpful!”

“Thanks, I did not know about this API.”

Successful design reviews

Design proposed
by a team
member



Team Design
member

#1

PSYCHOLOGICAL SAFETY

rework.withgoogle.com/blog/five-keys-to-a-successful-google-team/



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A healthy design process is

1

NOT a simple documentation process, nor a way to enforce decisions, nor a formal approval process

2

An exercise to 1) help organize your thoughts with the help of your team and 2) get to a team decision

3

Meant to be customized to fit your startup needs, and to evolve along with your team and your startup

Please remember to
complete the session
survey in the mobile app.



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