Technical decision making for teams

the open source way - @buritica
The Dashboard Tragedy

A screenplay by
Juan Pablo Buriticá

TECH STARTUP - NYC

The CEO of a young ridesharing company finds itself with the need of gathering DATA for its investors and its board. A member of the EXECUTIVE team hires a DATA SCIENTIST for this task, and then hands off relationship to the new VP of Engineering to make happen.

DATA SCIENTIST

I need servers, I must build a data warehouse like no one has ever seen. We'll use Big, Cassandra, Dynamo, Redshift...
TECH STARTUP - NYC

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DATA SCIENTIST

I need servers, I must build a data warehouse like no one has ever seen. We'll use Pig, Cassandra, Dynamo, Redshift and this data will be BIG!

VP OF ENGINEERING

I have been told you're quite the expert, I imagine you will be running all of this yourself?

DS
(gasps)

No! You must provide me with my resources!

VP

Meet Nondescript Engineer, they'll help you setup whatever you need.

time passes by like in the most agile of shops...
time passes by like in the most agile of shops

a demo dashboard appears in the conference room hdtv
a demo dashboard appears in the conference room hdtv

the CEO approves

a frontend engineer gets
a frontend engineer gets their hands on the source code ...

A VIDEO CONFERENCE CALL - THE CLOUD

After looking through the source code of the example dashboard, the frontend engineer complains in the private channel about his findings. The team requests an urgent team meeting with the VP OF ENGINEERING

FRONTEND ENGINEER

Did you know this was written in React??

VP OF ENGINEERING

No, I did not.

FE

(rolling their eyes)

Well, let us know when it's rewritten in Ember

VP

(hangs up call and withdraws to open office desk to meditate)
VP OF ENGINEERING
No, I did not.

FE
(rolling their eyes)
Well, let us know when it's rewritten in Ember

VP
(hangs up call and withdraws to open office desk to meditate)
EVERY LINE OF CODE IS A DECISION MADE ON BEHALF OF SOMEONE ELSE

My job: to enable my org to make the best decisions possible with the limited information available
failure
This was a process

My job: to enable my org to make
Process is the product I "ship" to enable my team
MY PROCESS

Requirements

CTO doesn't stand for Chief Technical Officer
CTO doesn't stand for Chief Technical Officer

Managers don't always have all answers, nor should they dictate technical decisions to team
| Teams are ephemeral | Experts have availability limitations |
Experts have availability limitations

Risk should be manageable and visible
manageable and visible

Everyone affected should have a space for input ...

without making it ...
... without making it design by committee

It should encourage responsibility
It should encourage responsibility

Allow for different levels of experience to come together
It should be welcoming for jr. folk

Promotes knowledge sharing
| Promotes knowledge sharing | Increases visibility |
Increases visibility

Serves as snapshot of context

Helps balance between...
| Helps balance between upfront design and fast iterations | Doesn't get in the way |
Doesn't get in the way

Asynchronous
SEARCHING FOR SOLUTIONS IN THE WILD

ARPANET 1969
ARPANET 1969

Request for Comments (RFC)

Memos in the Requests for Comments (RFC) document series contain technical and organizational notes about the Internet. They cover many aspects of computer networking, including protocols, procedures, programs, and concepts, as well as meeting notes, opinions, and sometimes humor. Below are links to RFCs, as available from ietf.org and from rfc-editor.org. Note that there is a brief time period when the two sites will be out of sync. When in doubt, the RFC Editor site is the authoritative source page.

RFCs associated with an active IETF Working Group can also be accessed from the Working Group's web page via IETF Working Groups.

IETF Repository Retrieval

- Advanced search options are available at IETF Datatracker and the RFC Search Page.
- A text index of RFCs is available on the IETF web site here: RFC Index (Text).
- To go directly to a text version of an RFC, type https://www.ietf.org/rfc/rfcNNNN.txt into the location field of your browser, where NNNN is the RFC number.

RFC Editor Repository Retrieval

- RFC Search Page
- RFC Index ( HTML | TXT | XML )
- Additional listings of RFCs
- RFC Editor Queue
IETF Repository Retrieval

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**EmberJS - Present day**
Ember RFCs

Many changes, including bug fixes and documentation improvements can be implemented and reviewed via the normal GitHub pull request workflow.

Some changes though are "substantial", and we ask that these be put through a bit of a design process and produce a consensus among the Ember core team.

The "RFC" (request for comments) process is intended to provide a consistent and controlled path for new features to enter the framework.

Active RFC List

.tomdale commented on Jul 19

This (first draft) RFC proposes a unified build system for Ember's ancillary packages, like fastboot, simple-dom, glimmer, etc.

Rendered

6
3

First draft

martndemus and 1 other commented on an outdated diff on Jul 19

Show 2 comments

text/0000-ancillary-package-module-standardization.md

Notifications
THE RESULTING IMPLEMENTATION

- Authors may write package source code in TypeScript, ES2015, or a mix of both. Because transpilation is done using the TypeScript compiler, which supports both, projects can incrementally migrate towards TypeScript, or use it only in portions where it makes sense.
It all begins with the need to engineer something
Should we write an RFC?

Caution: this is very subjective and no formula has worked
Caution: this is very subjective and no formula has worked

Are you building from scratch?
new endpoint, component, system, library, etc
Write an RFC

Does this involve more than one system or team?
drafting contracts

RFCS are great for

then one system or team?

Does this involve more
drafting contracts

Are you adding a new dependency?
| Write an RFC | If you have to ask, you should probably write one |
If you have to ask, you should probably write one

Next: Write the RFC
Title

- Start date: YYYY-MM-DD
- Due date: YYYY-MM-DD (remember to send a calendar invitation to eng@yourcompany.com)
- Main Author: @username
- Backers:
  - @username1
  - @username2
- Decision Delegate: in case decision making / merge can be delegated

1 Summary

Paragraph with a quick explanation of the proposal.

2 Motivation

Try to answer the following questions in a short paragraph:

- Why are we doing this?
- What use cases does it support?
- What is the expected outcome?
- How is the company as a whole delivering more value after this?

3 Detailed design

This is the bulk of the RFC. Explain the design in enough detail for somebody familiar with the business rules to understand, and for somebody familiar with the implementation to execute.

This should get into specifics and corner-cases, and include examples of how the problem is solved.

Any new terminology should be defined here.

3.1 System 1

How will system one behave in each interaction.
3 Detailed design

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3.1 System 1

How will system one behave in each interaction.

3.1.1 On action X, do Y

Based on events triggered by other systems, execute a certain action.

3.2 System 2

How will system one behave in each interaction.

4 Drawbacks

Why should we not do this?

5 Alternatives

What other designs have been considered?

What is the impact of not doing this?

6 Unresolved questions

What parts of the proposal are still TBD?
Submit your proposal
Set a reasonable approval deadline

This has also proven to be tricky and subjective, ugh
Set a reasonable approval deadline

This has also proven to be tricky and subjective, ugh

Encourage discussion
Managers beware. You must set expectations on civil
Managers beware. You must set expectations on civil conflict

Crush all aggressions, passive or active
Crush all aggressions, passive or active

Remind team to assume good intent
Written text has no tone, sometimes you must mediate in calls

Give insecure participants a boost

for example, anyone can prefix comments with [newbie]
Give insecure participants a boost

for example, anyone can prefix comments with [newbie]

Promote trust
Let low risk mistakes happen

Process approval or rejection
Process approval or rejection

(the science on this is not in yet either)

Clearly designate approver
Clearly designate approver

Another option is implicit approval
<table>
<thead>
<tr>
<th>Title</th>
<th>Status</th>
<th>Merged Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update Billing FSM RFC</td>
<td>Open</td>
<td>Jun 23</td>
</tr>
<tr>
<td>Updating Status reasoning for Billing history RFC</td>
<td>Closed</td>
<td>Jun 24</td>
</tr>
<tr>
<td>Updated Billing FSM RFC</td>
<td>Closed</td>
<td>Jun 14</td>
</tr>
<tr>
<td>[RFC] Adding new RFC allowing users to leave rides</td>
<td>Closed</td>
<td>Jun 27</td>
</tr>
<tr>
<td>Rename RFCs that were not following the convention</td>
<td>Closed</td>
<td>Jun 24</td>
</tr>
<tr>
<td>[RFC] Facebook auth</td>
<td>Closed</td>
<td>Jun 27</td>
</tr>
<tr>
<td>[RFC] Cancel Trip</td>
<td>Closed</td>
<td>Jun 24</td>
</tr>
<tr>
<td>[RFC] Billing History</td>
<td>Closed</td>
<td>Jun 24</td>
</tr>
<tr>
<td>[RFC] Update Business Event Tracking for Trip Experience Changes</td>
<td>Closed</td>
<td>Jun 24</td>
</tr>
<tr>
<td>Refunding Stripe Application Fees Postmortem</td>
<td>Closed</td>
<td>Jun 8</td>
</tr>
<tr>
<td>[RFC] Add card brands</td>
<td>Closed</td>
<td>Jun 23</td>
</tr>
<tr>
<td>[RFC] - analytics] Updating the next trip scheduled event</td>
<td>Closed</td>
<td>Jun 9</td>
</tr>
<tr>
<td>Updating analytics RFC to include new admin events</td>
<td>Closed</td>
<td>Jun 1</td>
</tr>
</tbody>
</table>

Implement
Implement

May happen before approval if risk is low enough
if risk is low enough

Deviations from original proposals should make it back to document
Any contract updates should be made against original proposal

Conclusions
Conclusions

A note on tooling
A note on tooling

Use whatever gets out of the way for those involved in process
Local context is more important than random mgt advice

If I help engineers make the decisions I hired them for, the team becomes stronger* and we write better* software together
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*science is not in yet
THANKS!
THANKS!

Questions -> @buritica