



Architecture Katas Semi-Finalists



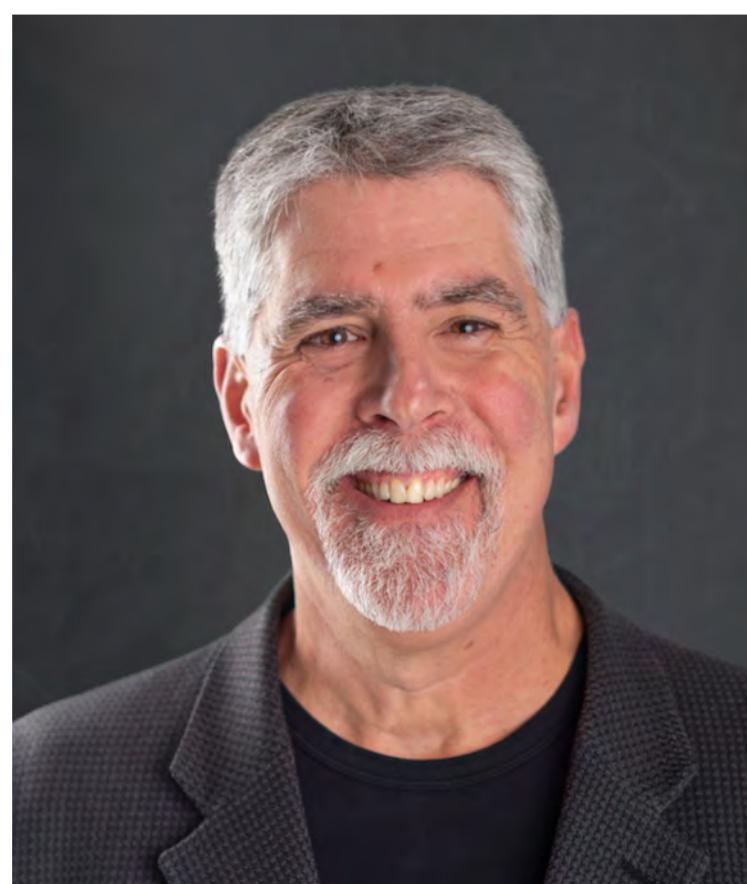
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Vanya Seth

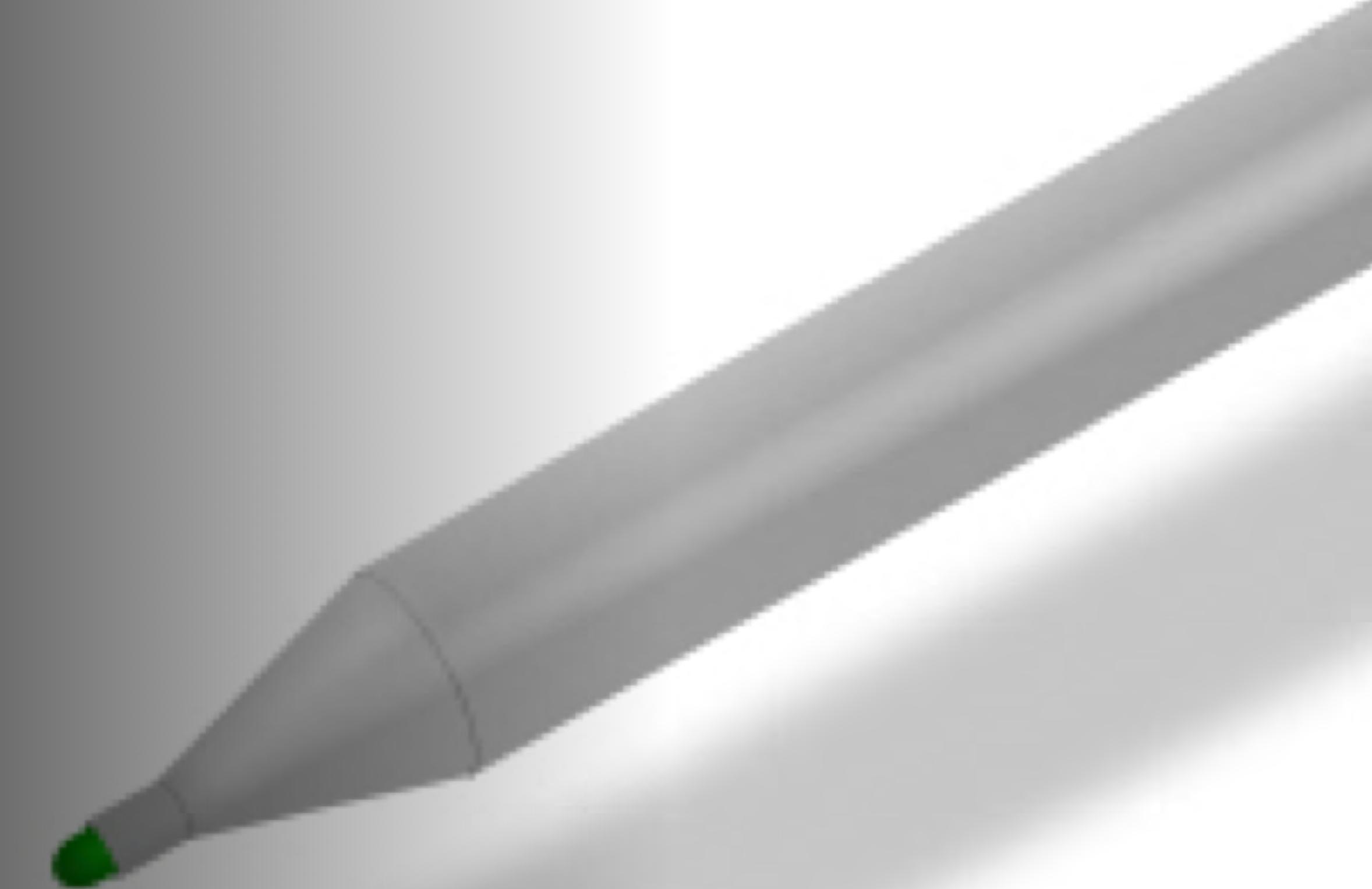
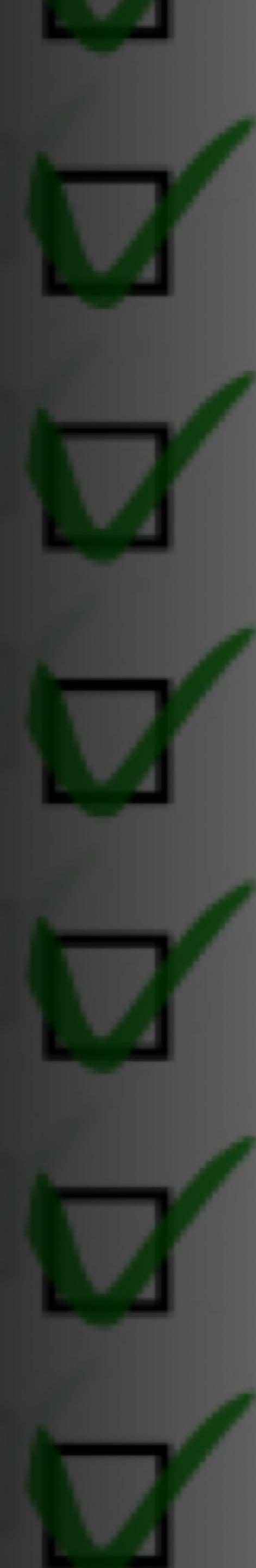
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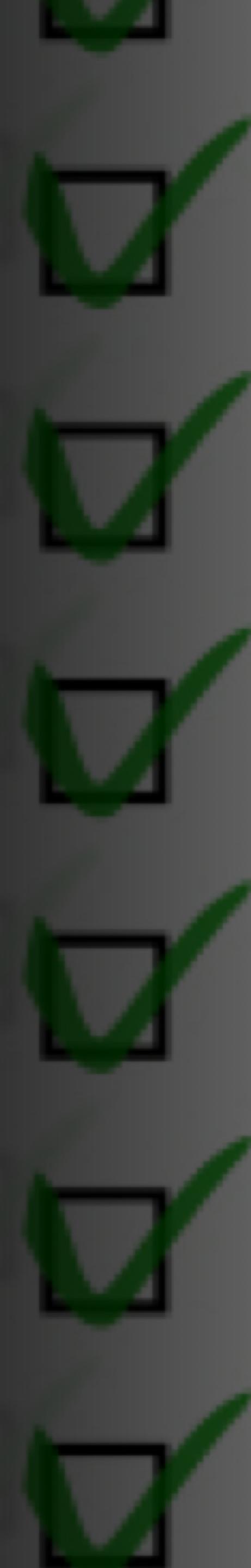
David Bock

Vice President of Engineering
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Judges Criteria



Clarity of narrative, organization, and supporting documentation



Judges Criteria

clarity - narrative, organization, supporting documentation

Introduction

"A leader is one who knows the way, goes the way, and shows the way" – John C. Maxwell

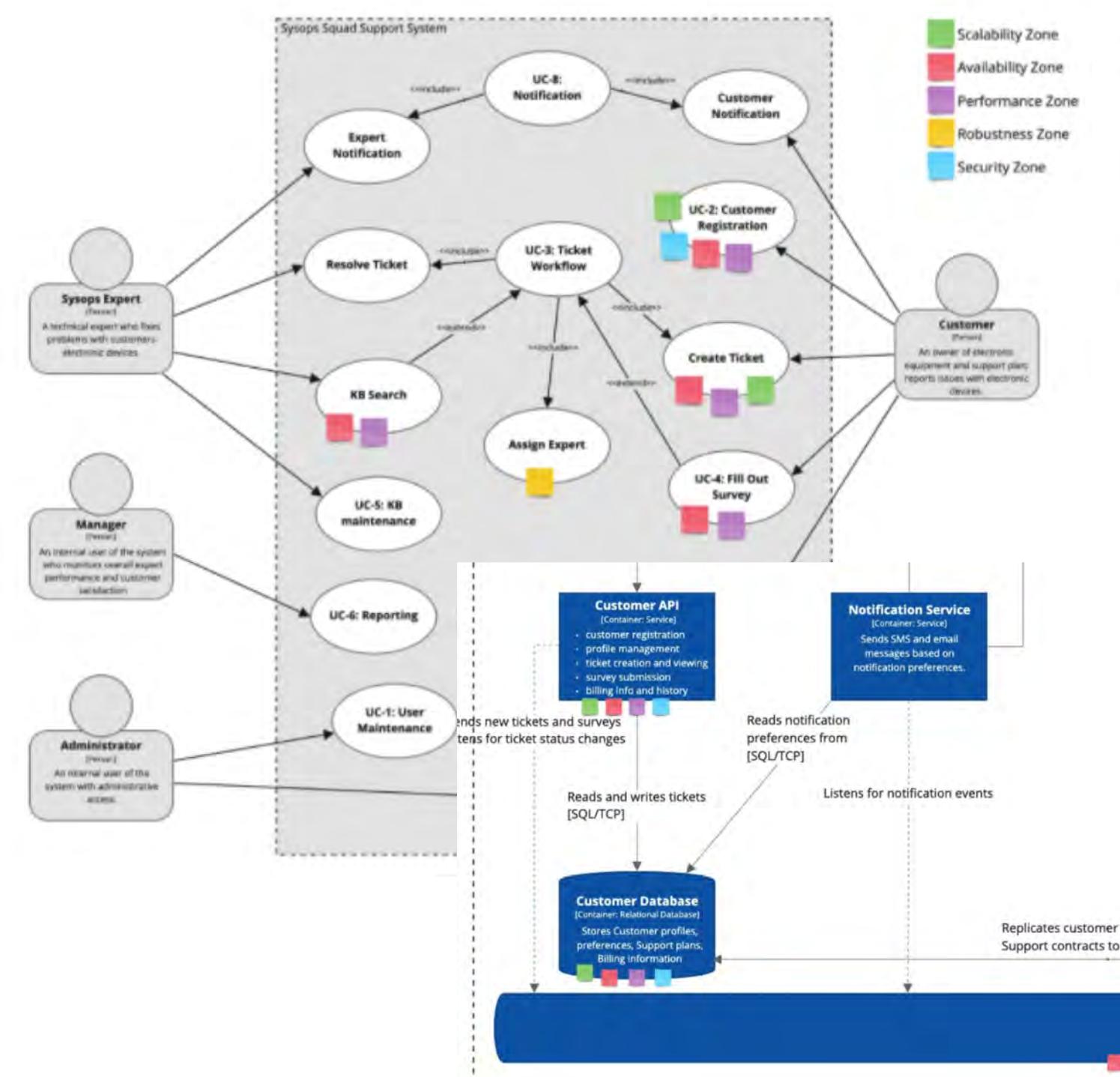
Fixing a monolith is a daunting task especially when the consequences include employment termination. We are lucky, however that we were given such consequences upfront along with the pain points and the requirements. Pain points can be great guides for the road ahead.

To build a better system that can improve the quality of life of our customers and make Penultimate Electronics profitable we need to understand the current system (monolith) better, which is a challenging task in itself for having to understand all the side effects under different circumstances. For example, performance during normal hours vs. failure during peak times. Hence, we proposed fitness functions to better understand the dynamism of the current system.

To further understand the current system, we produced a C4 model to expand our understanding beyond just the components' views and into the system relationship with the current environment.

For us to move toward a better system, we had to set guiding principles:

1. Increase profitability by accommodating customers' growth easily by support plans on with their products purchases.
 2. Avoid Big Bang approach in favor of phased approach.
- As a result we are going to take the current monolith and transform it into a better system.



Component	Description
Contract Capture Service	Responsible for customer onboarding to the platform and manage Customer Contracts. It also provides payment and billing information to the payment service. It's a client face critical service.
Ticket Capture Service	Responsible for ticket creation and ticket updates. Shared between Clients and Support Staff. Client face critical service. The reasons of having separated service are mentioned in ADR0003 and ARD0004 . On how tickets have the status updated can be found in ARD0006
Ticket Allocation Service	Contains the business logic to match Technology Experts and tickets. Highly specialized service that can evolve independently from the other microservices to include fuzzy logic, account for route optimization and optimization of technology experts working time. Can also have elements of AI and integration with Knowledge Base in the future. It also integrates the third party applications such as googlemaps to get geolocation information of experts and customers in realtime, internets providers to send sms or push notification to the experts about a new ticket and customers about the status of the ticket. We have coupled the notification service into this service based on the ARD0005
Device Repair Service	Supports the technical expert on the closure of a ticket. We decided to keep it separated from the Ticket Capture and ADR0006 .
Customer	Responsible for support

- How to achieve step #1
 - As part of analytics [adr](#) and KB [adr](#), new databases will be created for new integrations
 - Existing monolith service will replicate [analytics](#) and [KB](#) related data to new databases
 - We will take a snapshot of needed previous [analytics](#) and [KB](#) data from existing database and will store in the new databases (we will use an extract-transform-load (ETL) tool for this purpose)
 - [Analytics](#) and [KB](#) will be served through new integrations with required changes on current system
 - We will decommission [analytics](#) and [KB](#) functionalities of monolith service

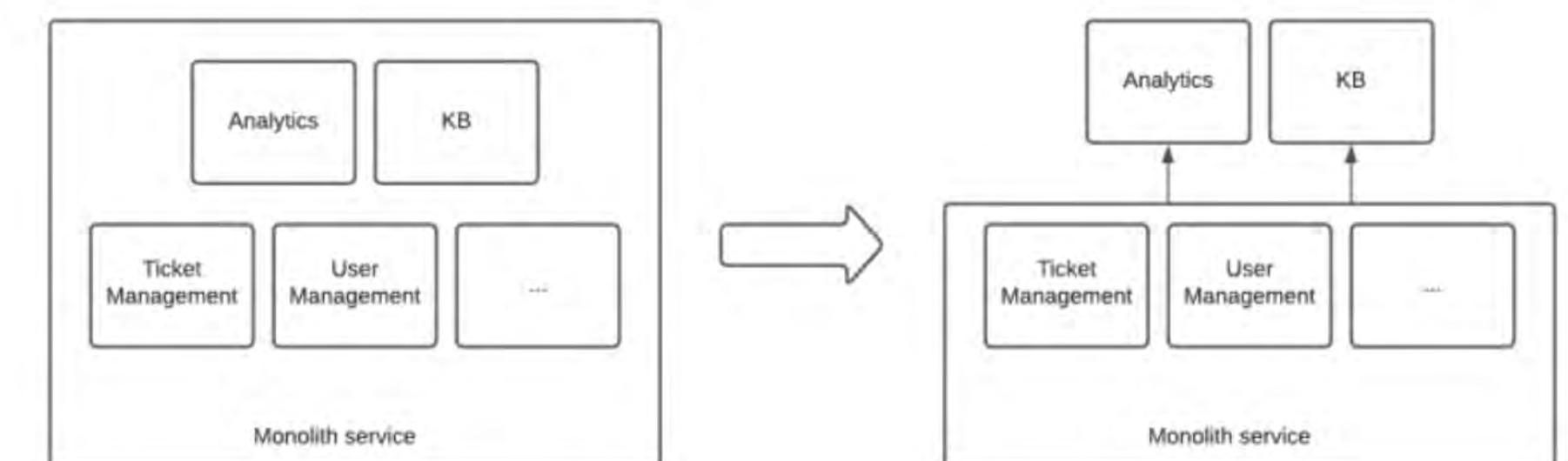
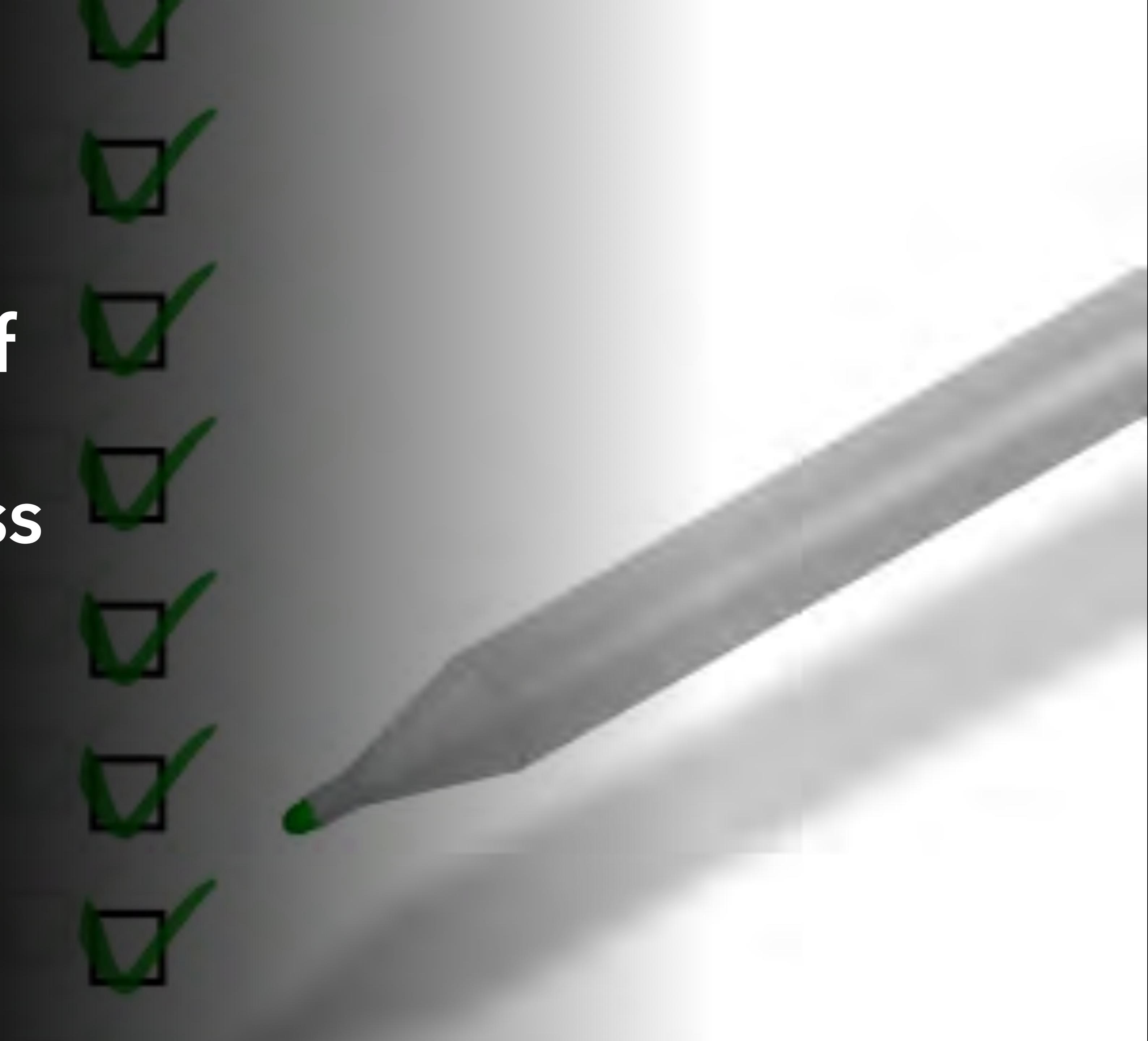


Figure - migration plan step #1

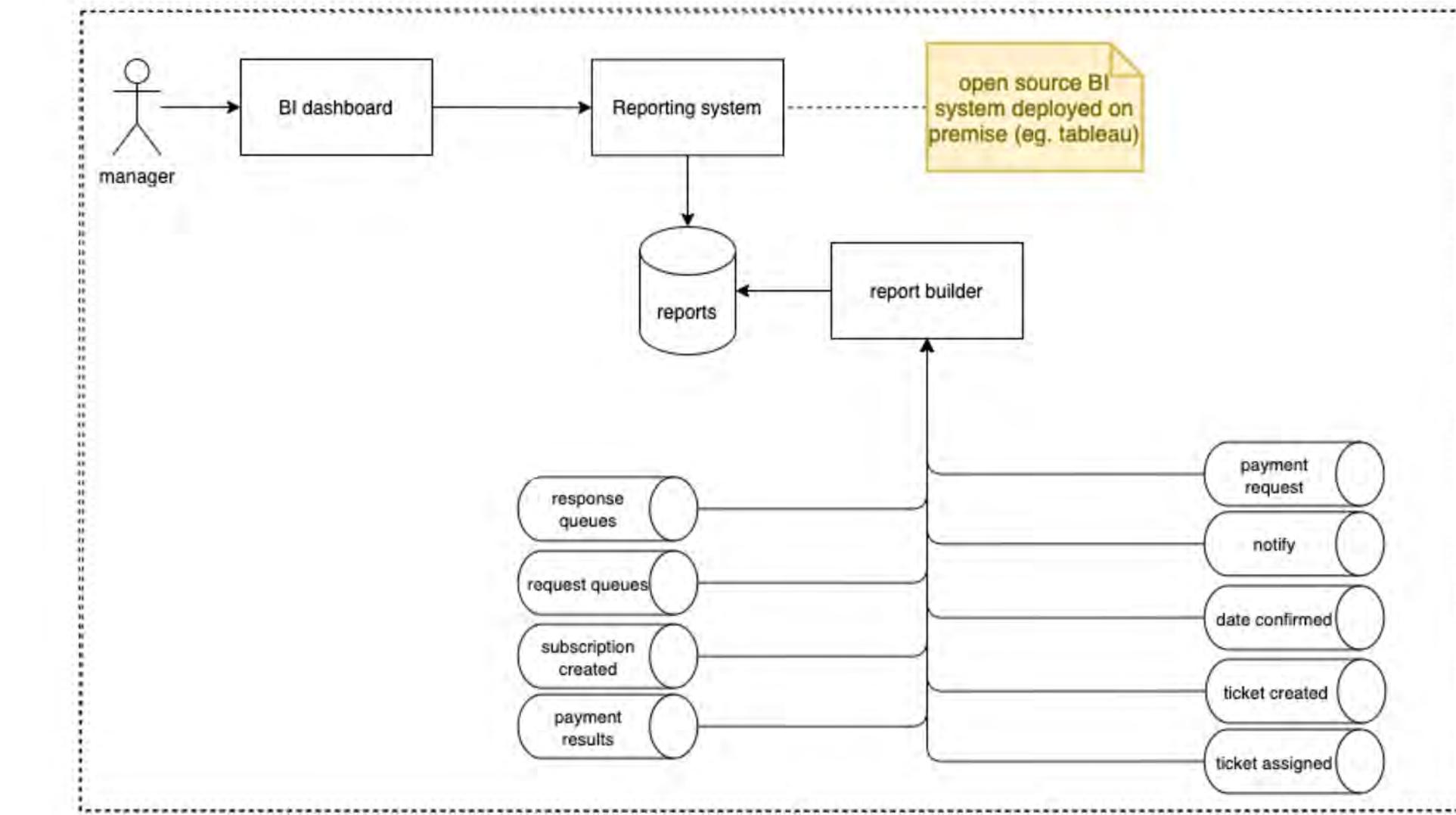
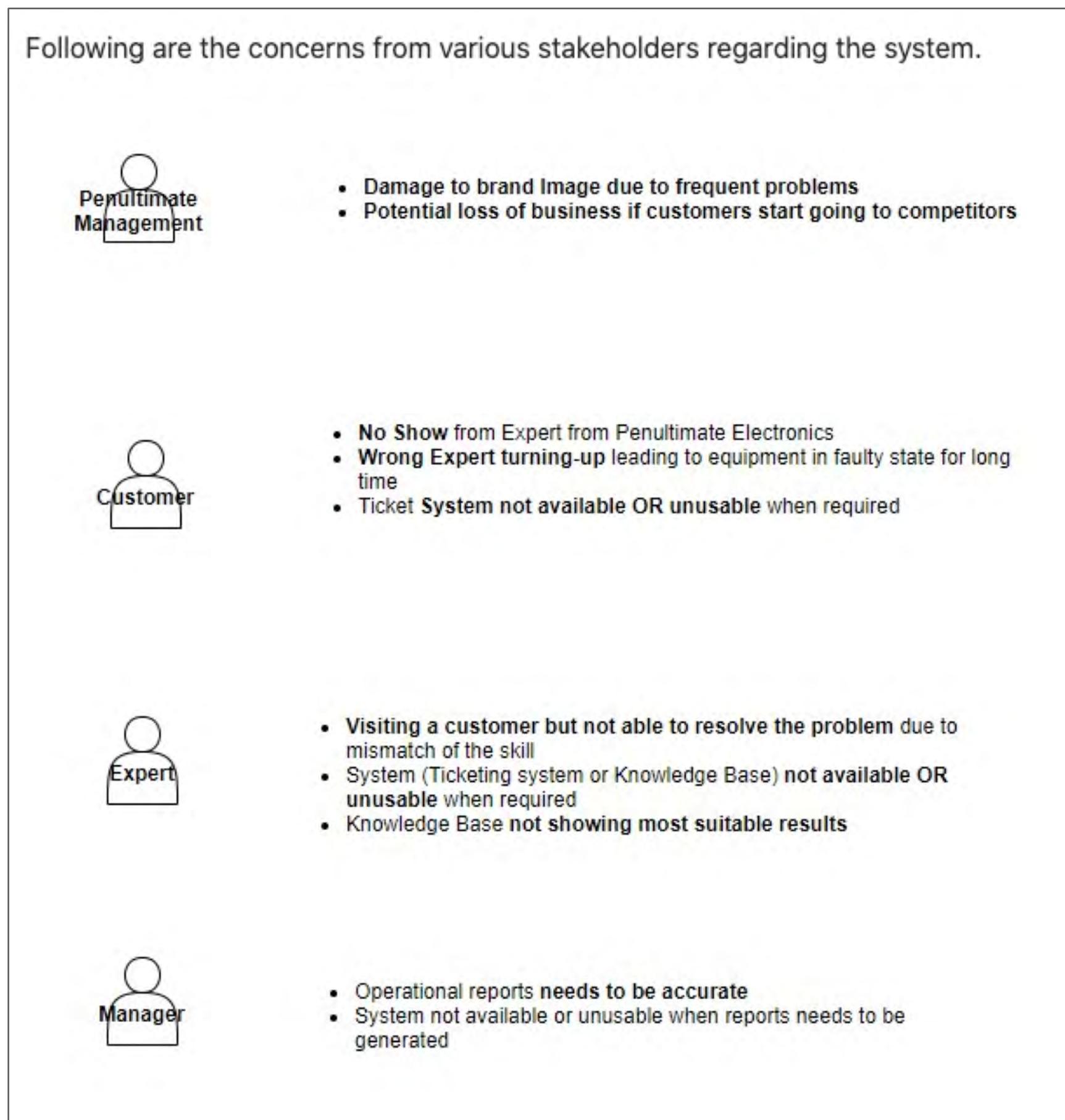
- Step #2 Migrate less dependant components
 - Motivation
 - Less dependant components - which are called but don't give call - (e.g. notification service) are easier to migrate rather than core components (e.g. ticket workflow engine) - which have many touchpoints. Migration of less dependant components doesn't require making a connection back to the monolith

Understanding of the requirements and completeness of solution



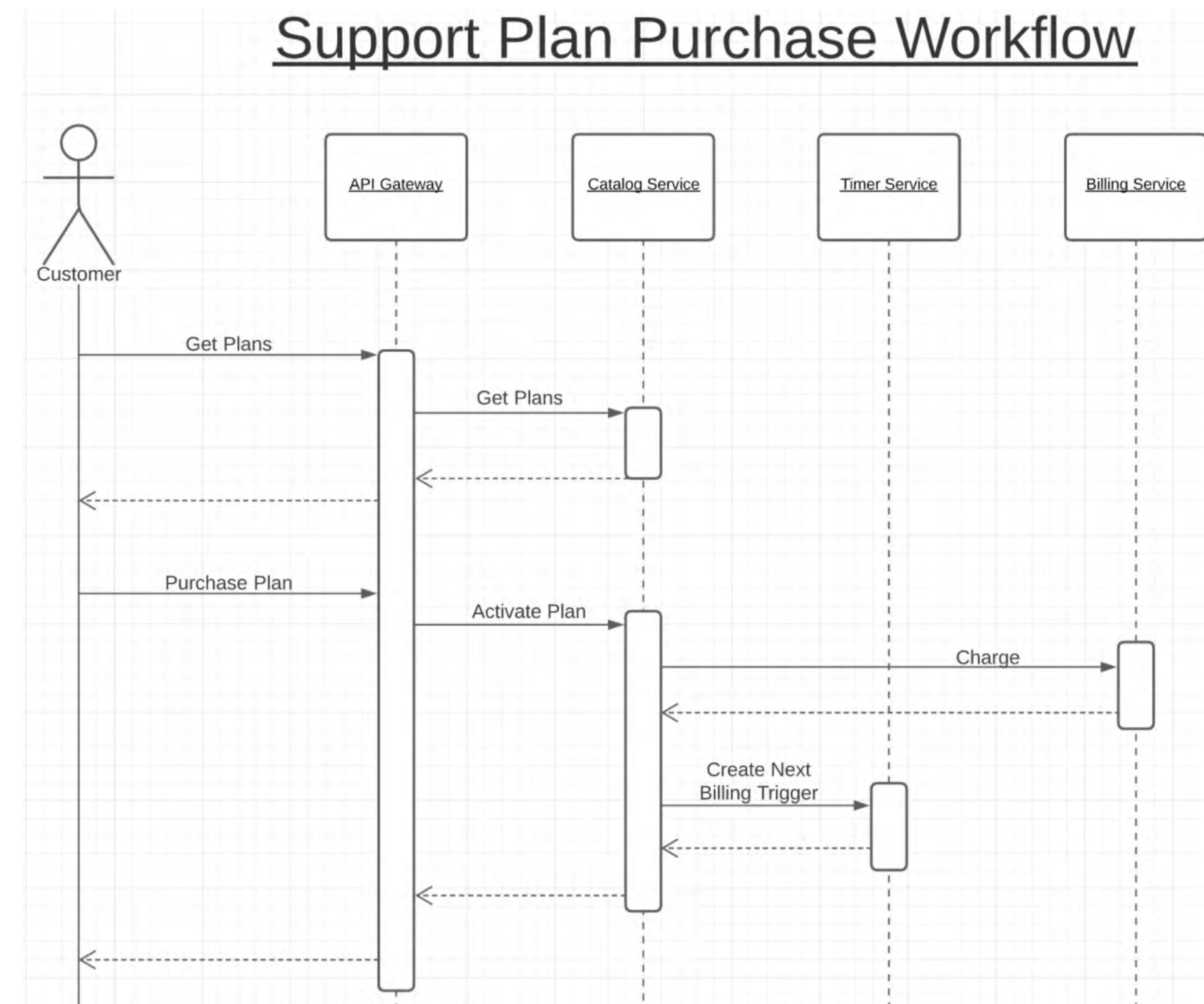
Judges Criteria

understanding of the requirements and completeness of solution



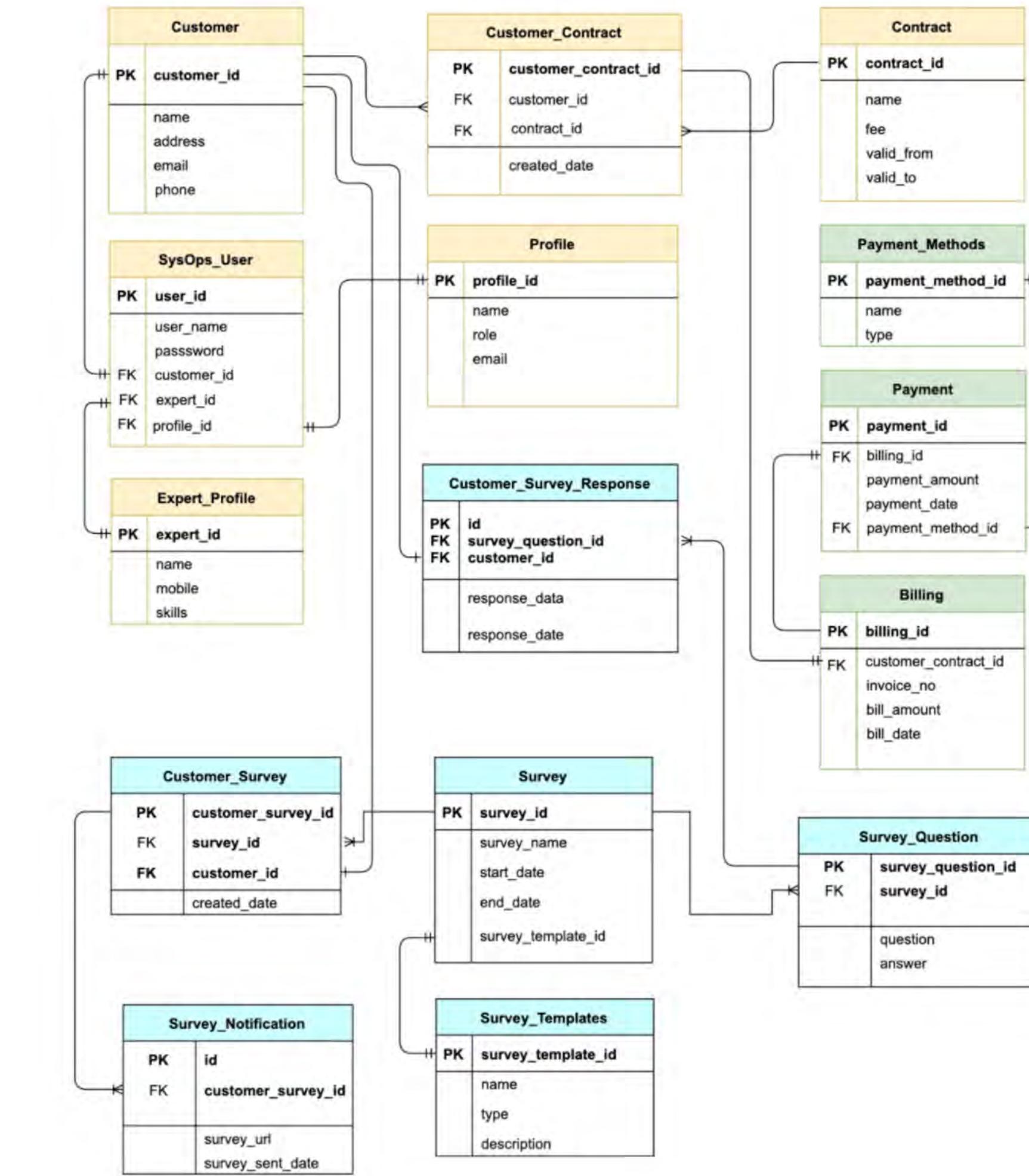
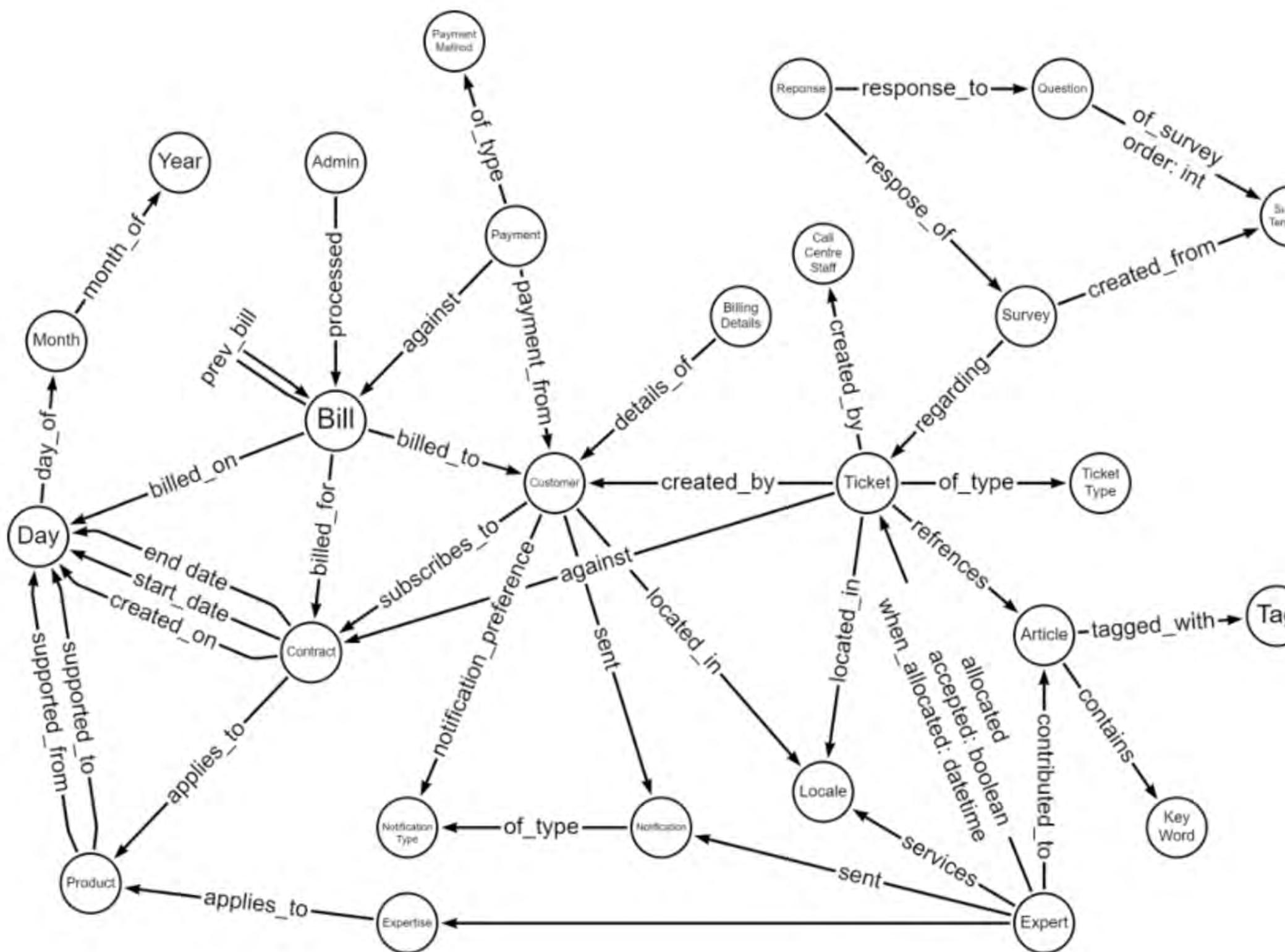
Judges Criteria

understanding of the requirements and completeness of solution

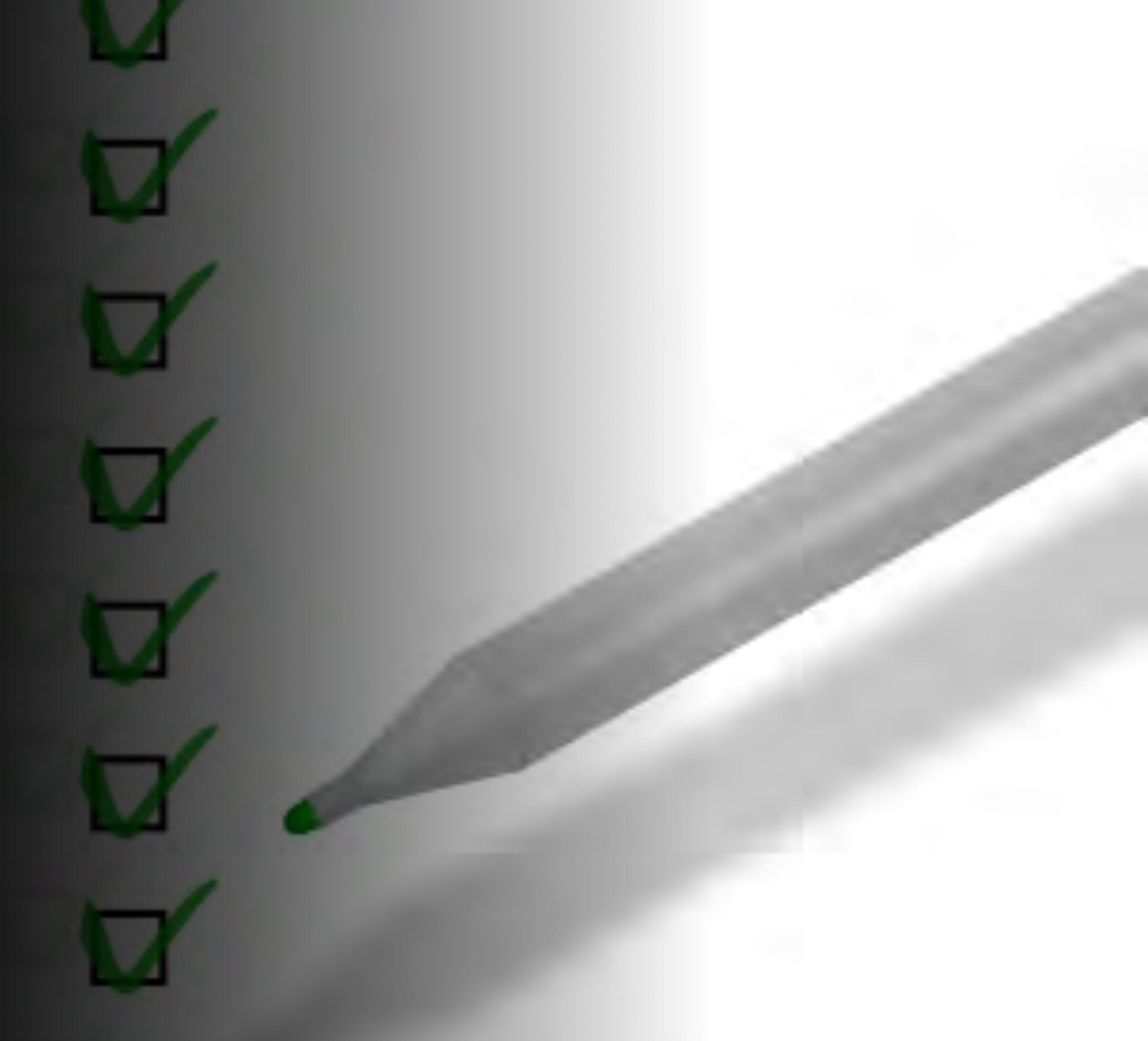


Judges Criteria

understanding of the requirements and completeness of solution



Identification of supporting architecture characteristics



Architecture is all about tradeoffs



Mark Richards @markrichardssa · Apr 28, 2018

...

To quote my good friend [@neal4d](#) “there are no wrong answers in architecture, only **tradeoffs**”. [#GIDS18](#) [@greatindiandev](#)

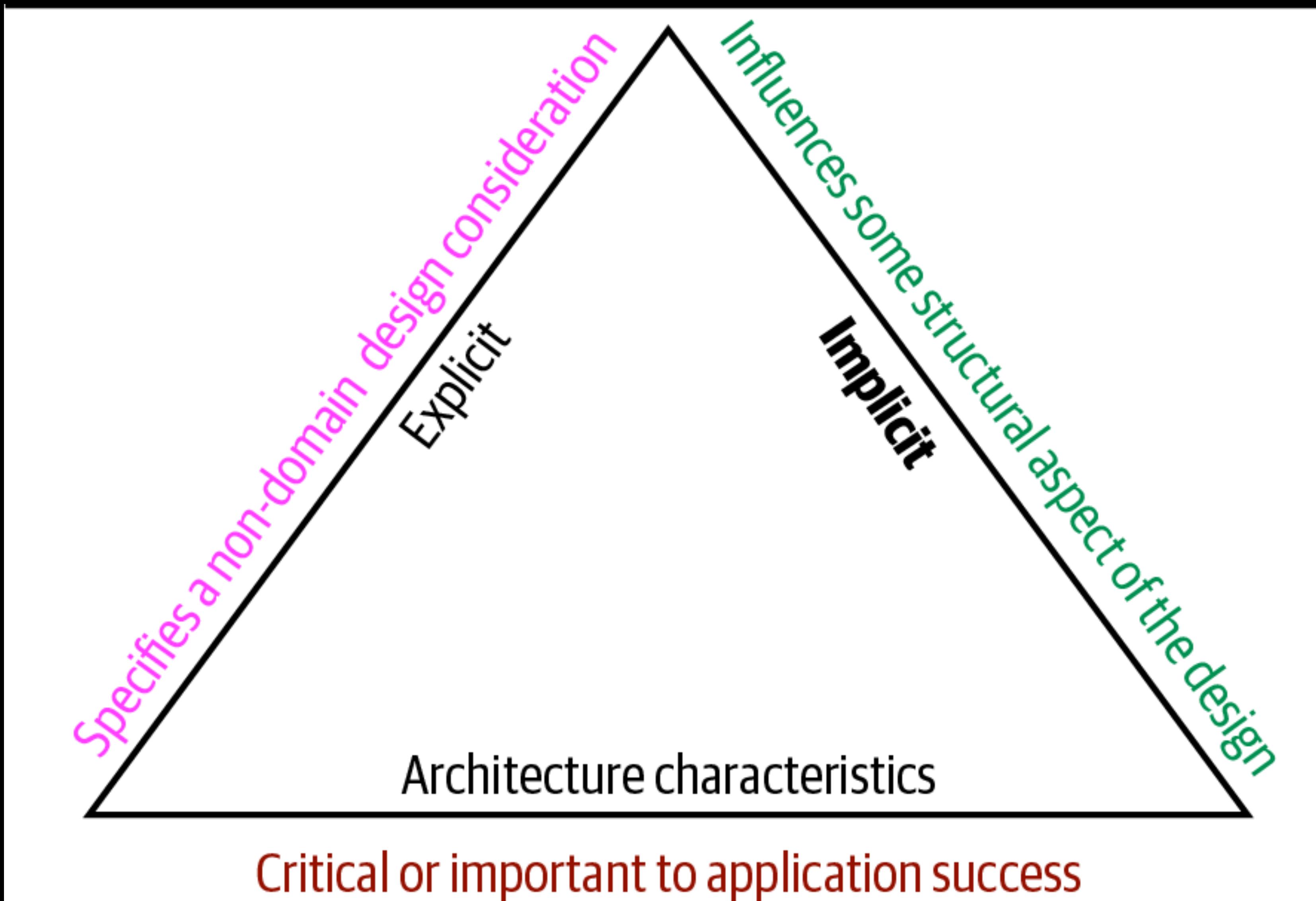
2

3

4

↑

Architecture Characteristics

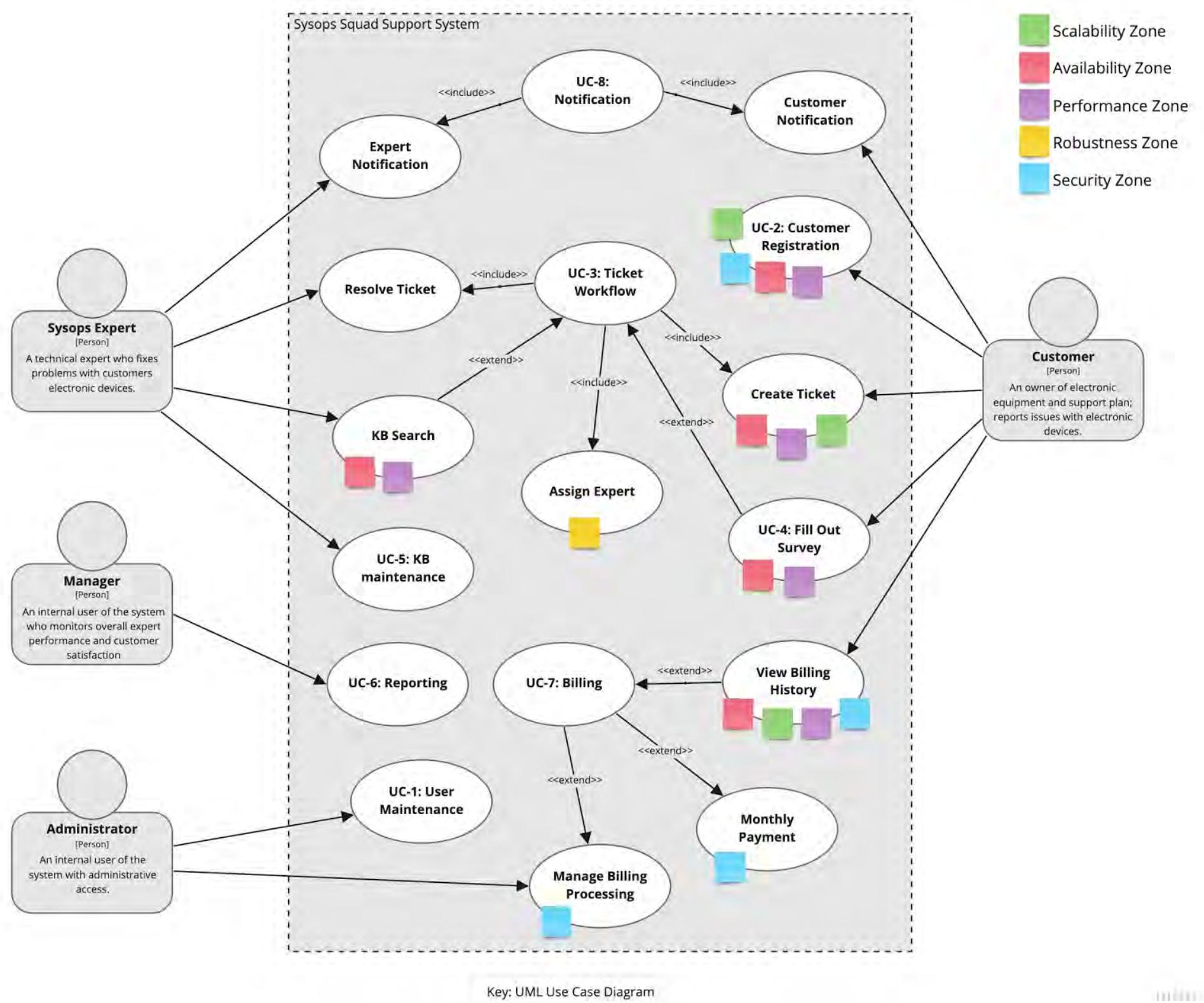


Architecturally significant characteristics

Characteristic	Motivation. Why?
Availability	The business is dependent on how the system is available. Also it was identified that the current system suffers from lack of availability. We want to be able to address potential performance limitations and growing users auditory by adding resources
Scalability	We don't need to design for an exponential scale here. Expected load - hundreds requests per second.
Elasticity	It was identified that the current system suffers from user activity spikes.
Testability	We want to avoid the current situation when it is risky to make changes into the system.
Maintainability	We want to avoid the current situation when it is risky to make changes into the system.
Evolvability	Since the problems of the existing system are quite urgent we need to develop a system which can be onboarded asap partially to cover the most painful areas but also evolve to the comprehensive solution.
Recoverability	In the current system some data is getting lost in case of system failures (experts do not get tickets). We need to ensure that this does not happen as this leads to customer frustration .
Monitor-ability	In the current system, they do not know why the system crashes (they are guessing it's due to high traffic but there isn't any proof). We should be able to monitor the new system appropriately to help debug issues.

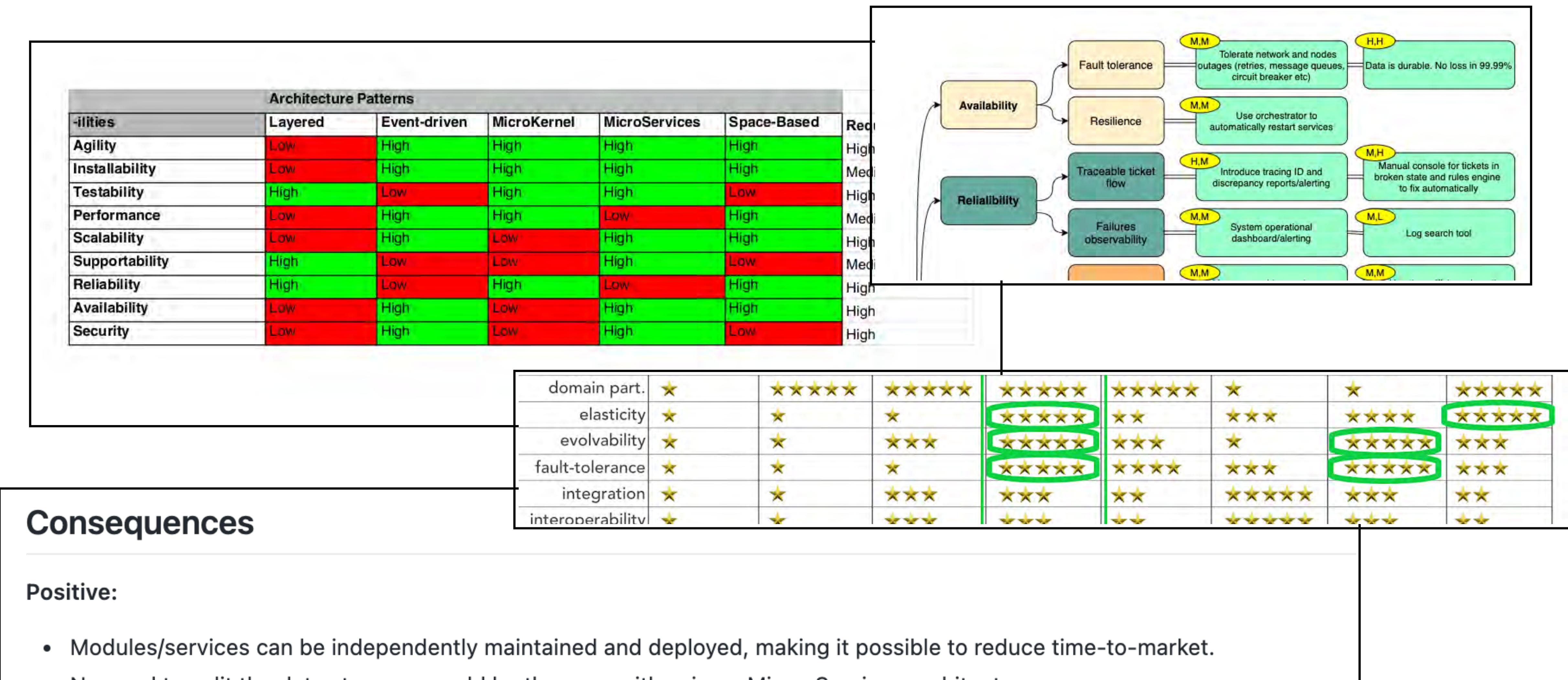
Architecture Characteristics Requirements

- QA-1: scalability (UC-3)
 - country scale geography (USA?);
 - number of customers - millions;
 - number of tickets per customer ≤ 100 (let's assume something crazy);
- QA-2: availability (UC-2, UC-3, UC-4)
 - customer-facing services and KB must be highly available because outages will make a negative impact on business;
 - 99.9% seems reasonable here;
- QA-3: performance (UC-2, UC-3, UC-6)
 - response time $< 2\text{s}$ for page load;
 - knowledge search time several seconds;
 - reports generation should not take an excessive amount of time;
- QA-4: robustness (UC-3)
 - lost tickets or wrong experts may lead to the business closure;
- QA-5: security (UC-2, UC-7)
 - customer personal information and credit cards should be stored in secure and comply to PCI requirements;
- QA-6: deployability (all use cases)
 - deployments should be safe and avoid regression in unrelated components;

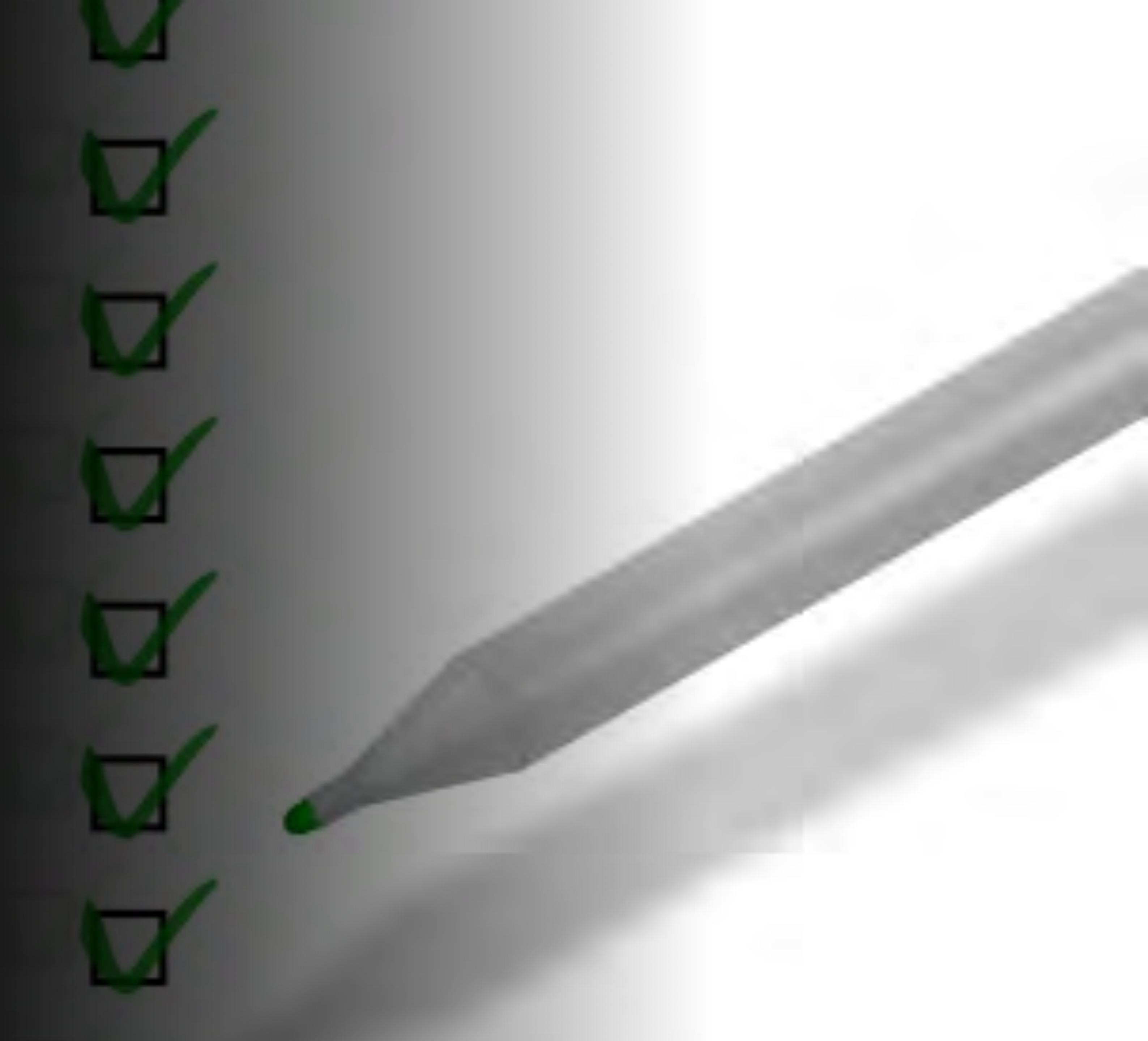


Key: UML Use Case Diagram

Making decisions based on architecture characteristics



Diagrams - types, level of detail, completeness



Judges Criteria

diagrams - types, level of detail, completeness



“The goal of a diagram is to convey a clear and shared understanding of the architecture”

- Neal Ford

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graph LR; A[Thing 2] --> B[Thing 1]
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Thing 1

Thing 2

Judges Criteria

Formal models?

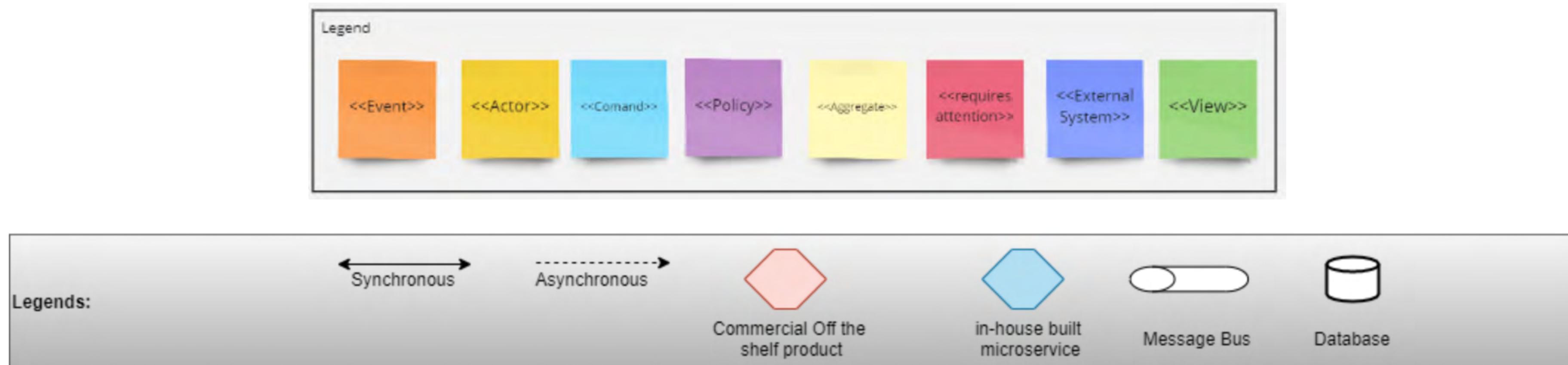


C4 Model



Judges Criteria

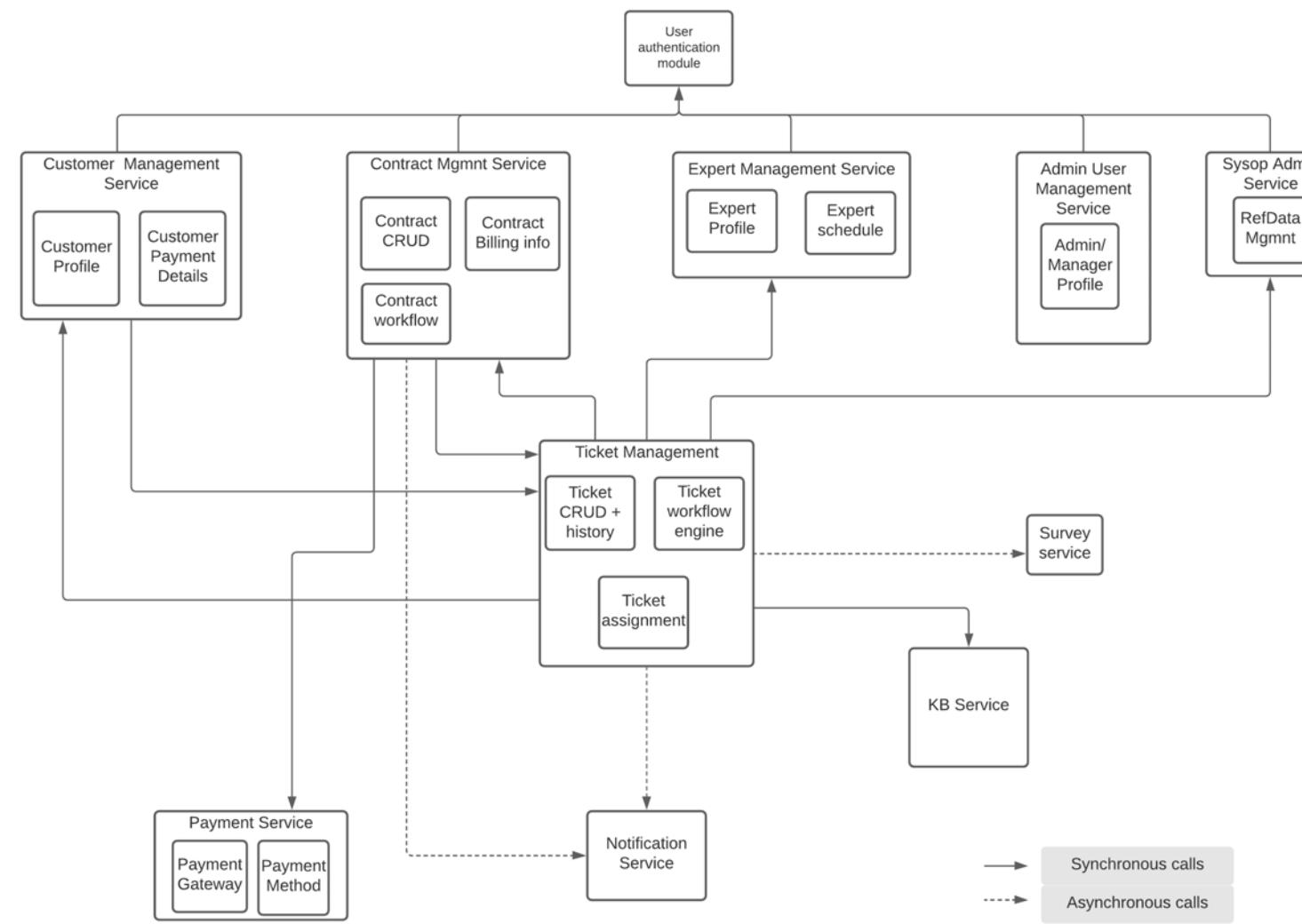
diagrams - types, level of detail, completeness



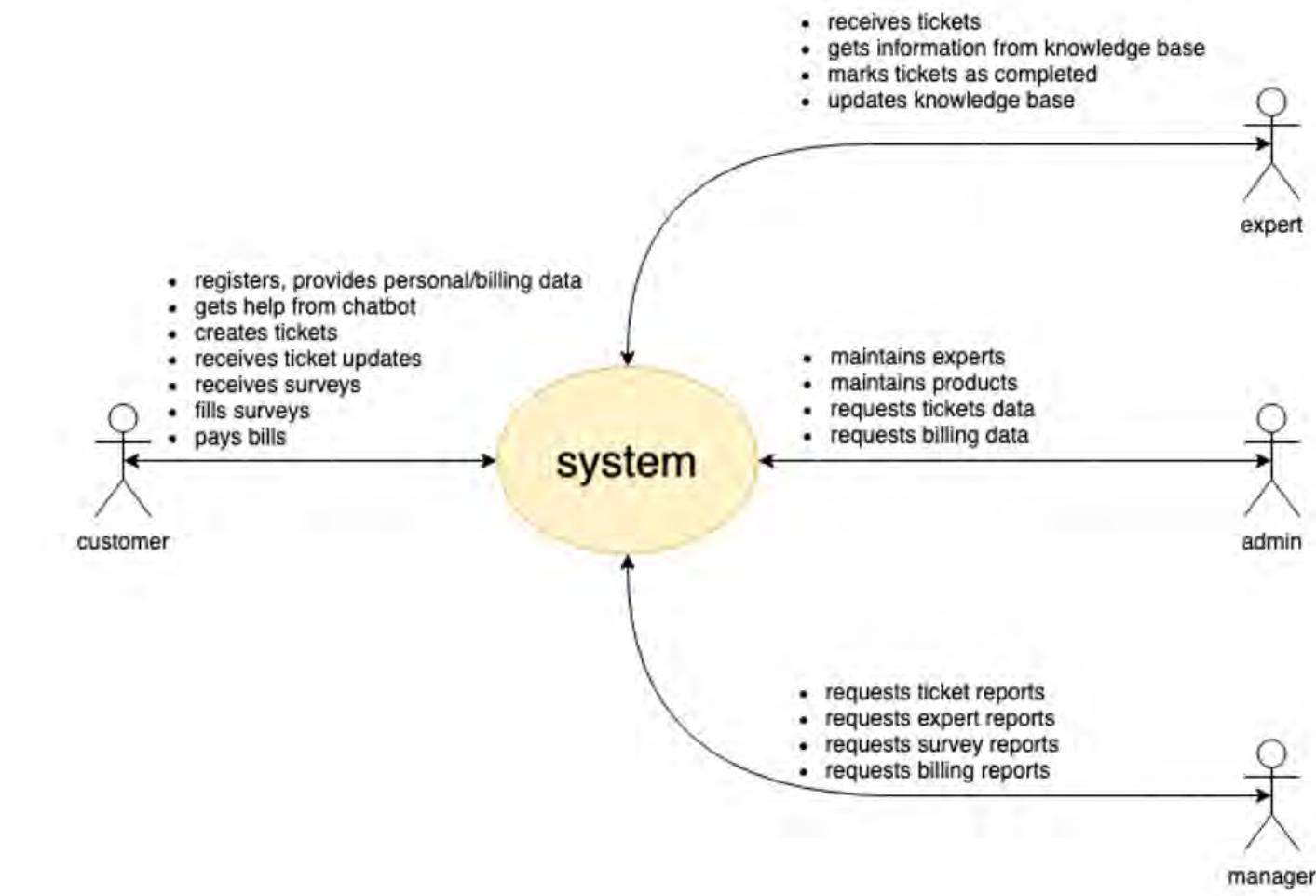
Legends

Judges Criteria

diagrams - types, level of detail, completeness



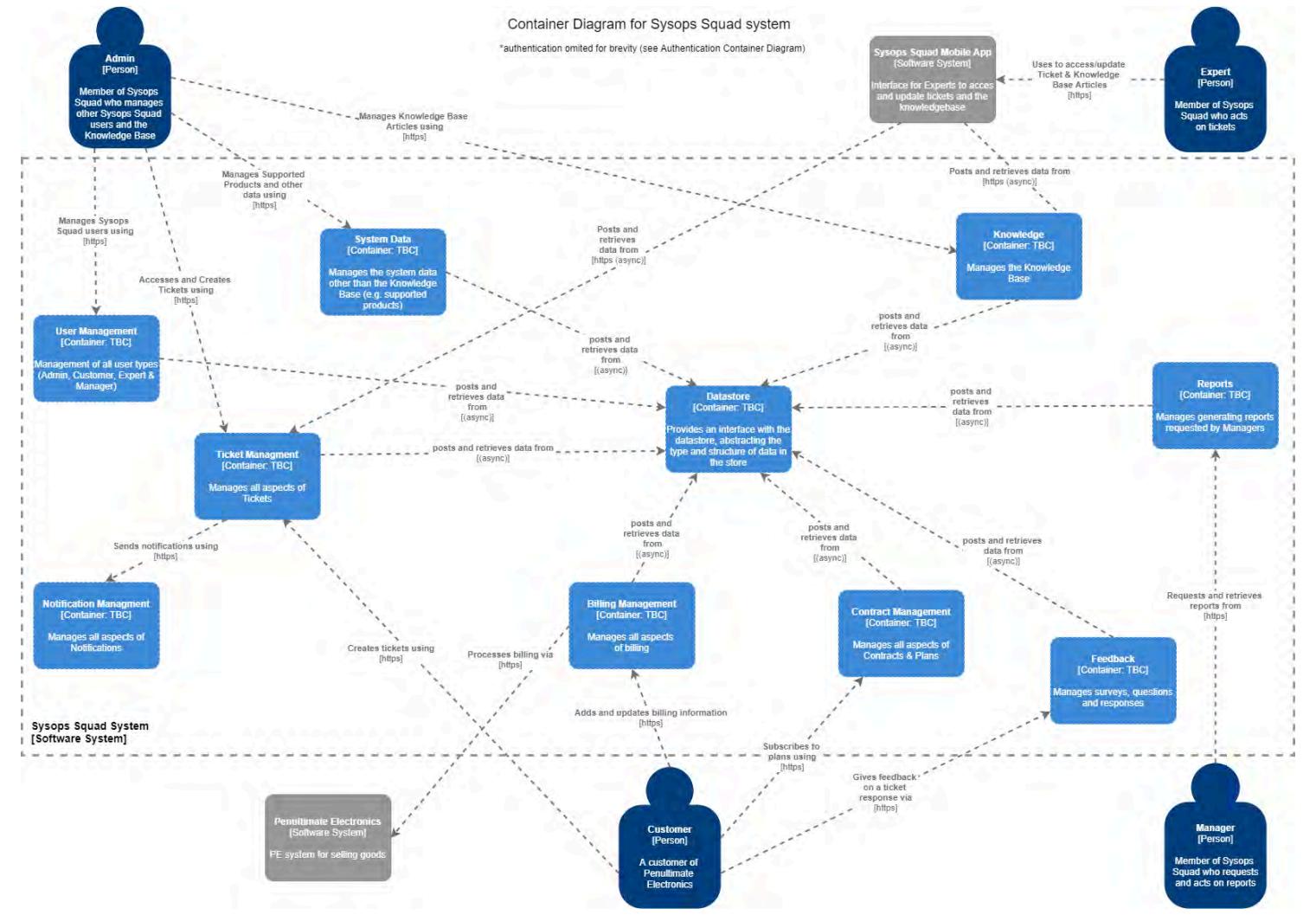
component diagrams



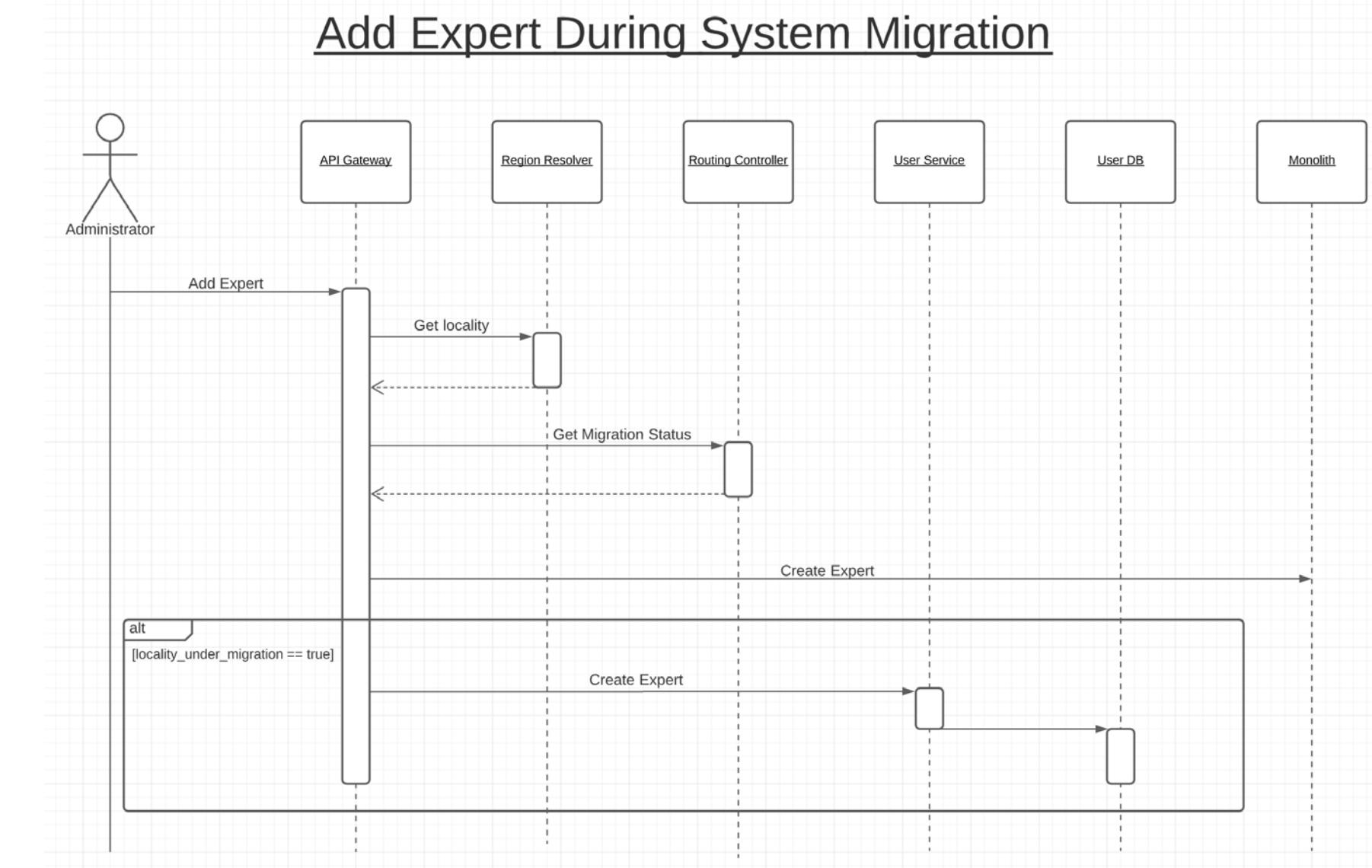
context diagrams

Judges Criteria

diagrams - types, level of detail, completeness



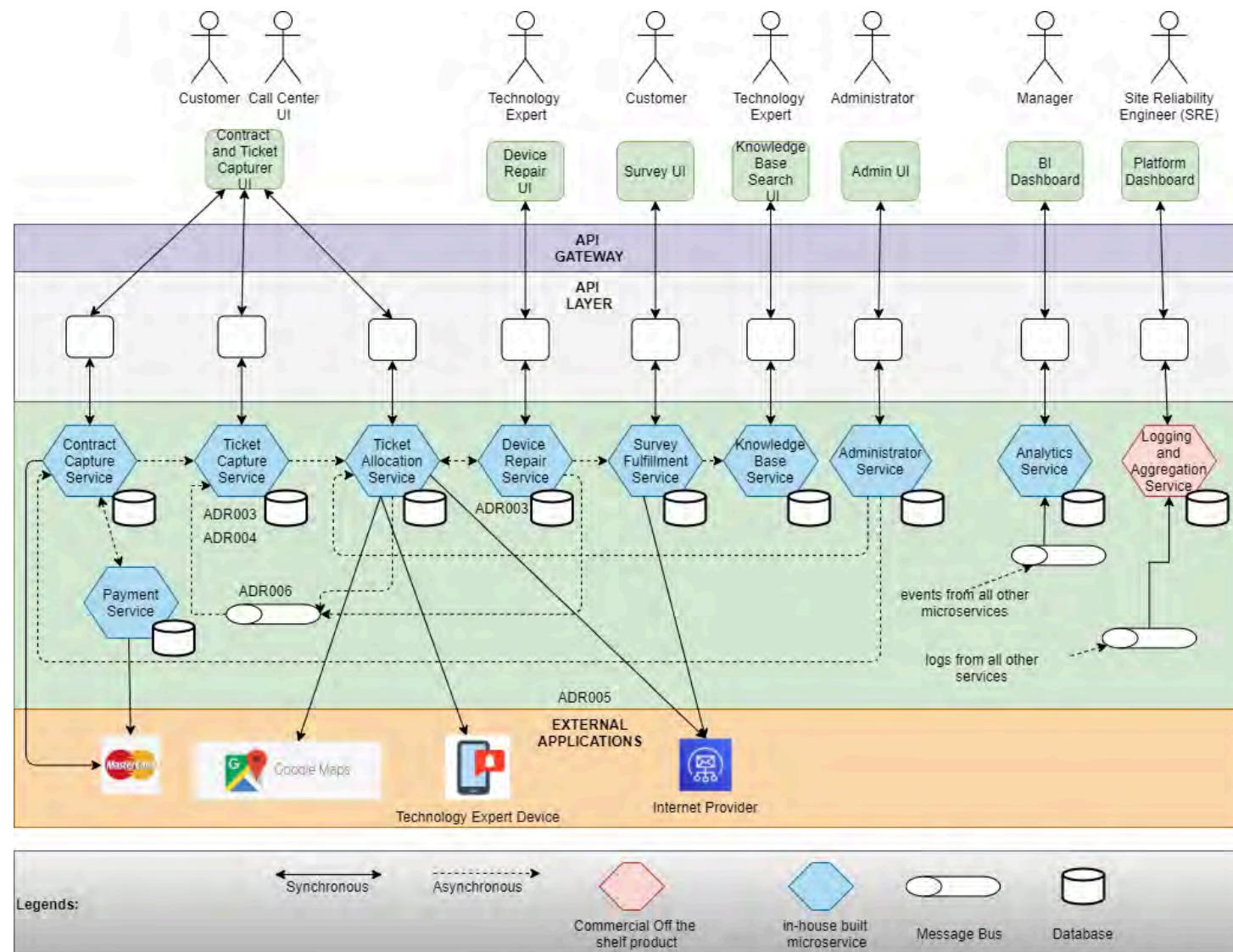
Container diagrams



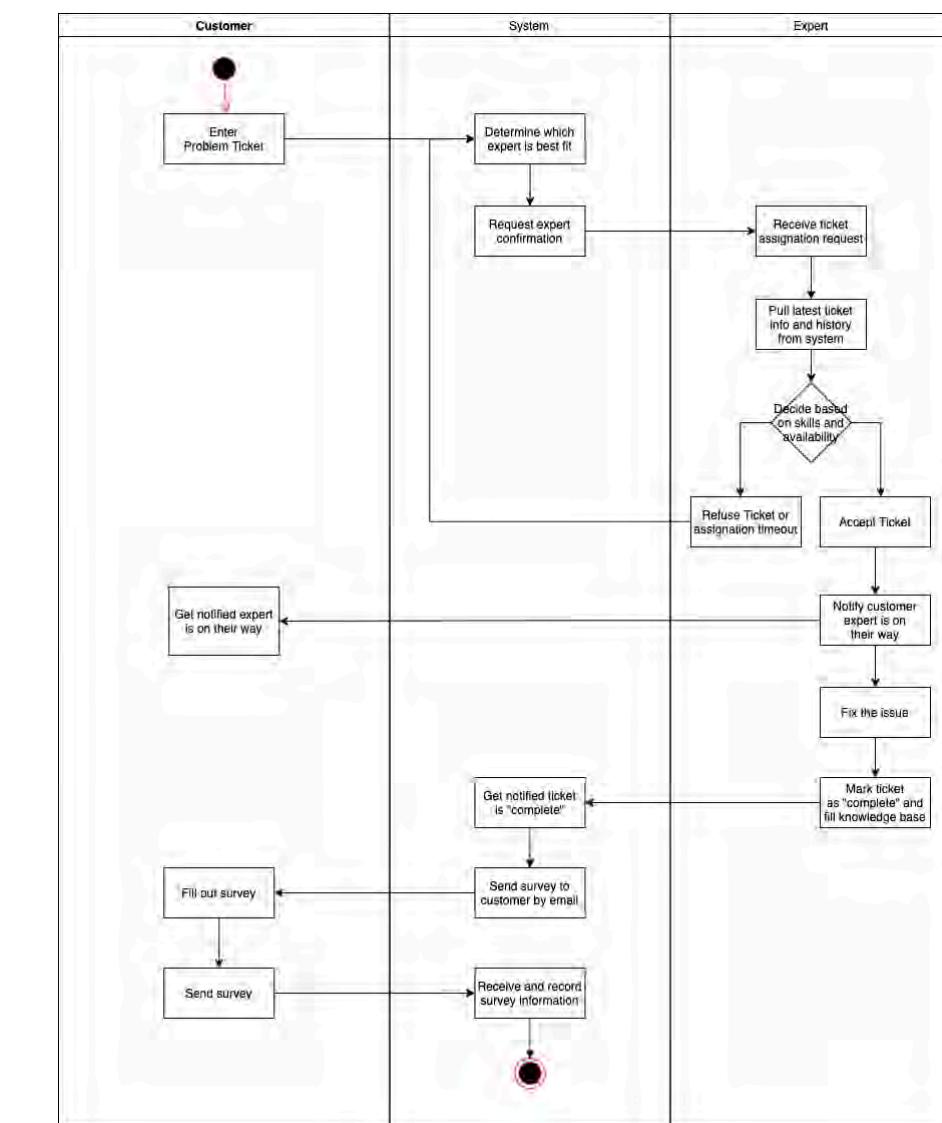
sequence diagrams

Judges Criteria

diagrams - types, level of detail, completeness



system diagrams



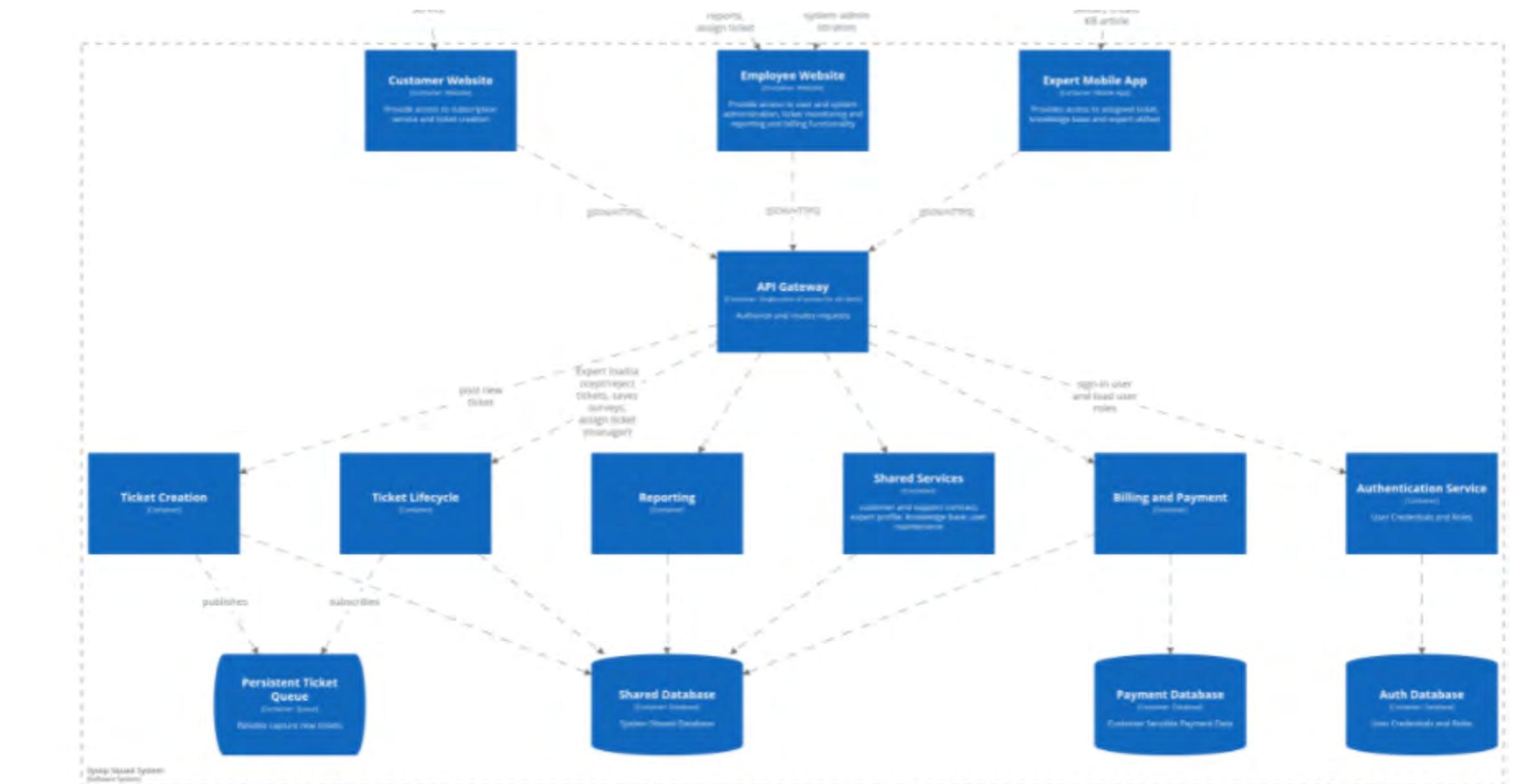
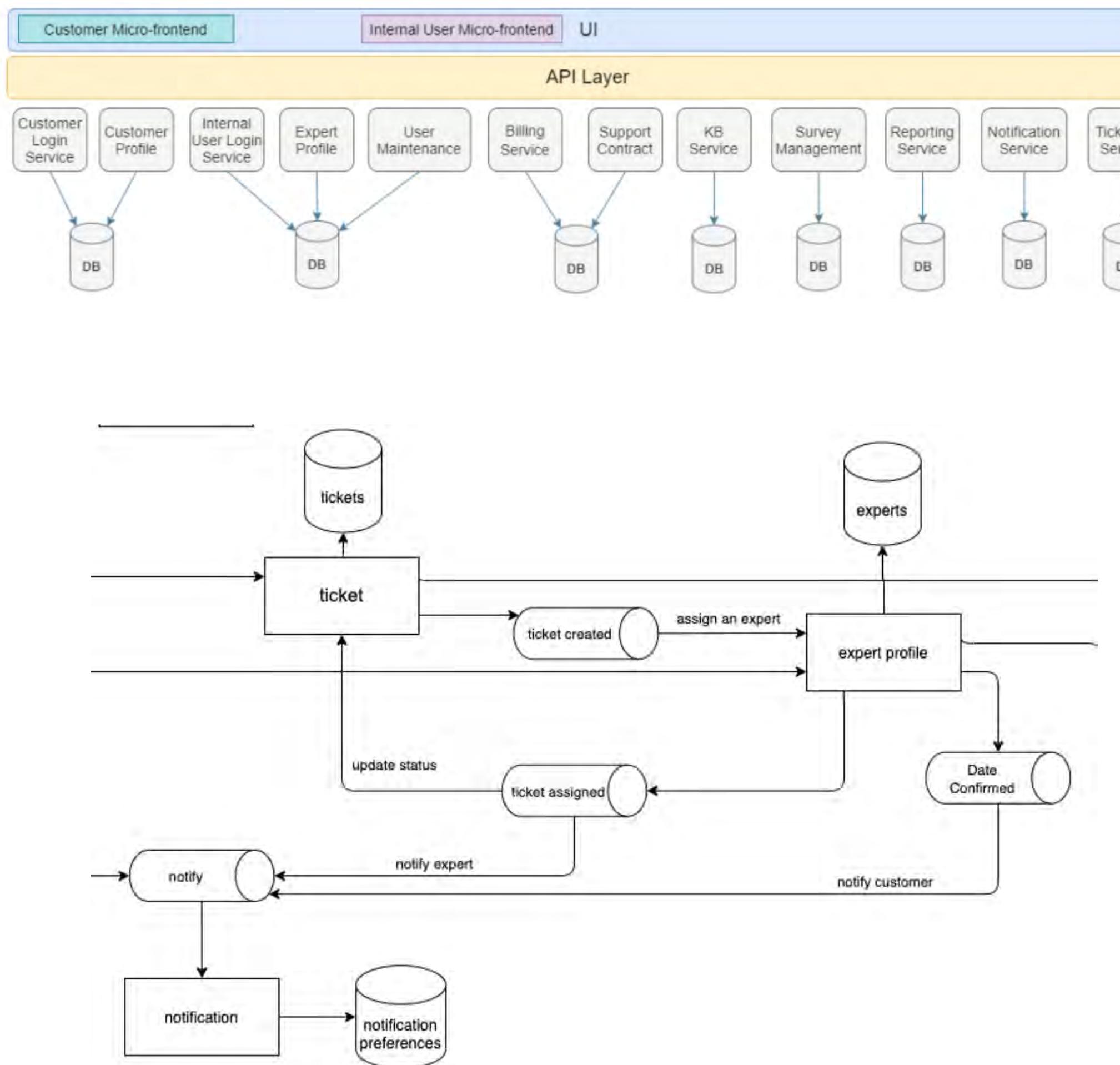
workflow diagrams

Overall systems architecture



Judges Criteria

overall systems architecture



Architecture decision records - documentation and justification



O'REILLY®



Fundamentals of Software Architecture

An Engineering Approach

Mark Richards & Neal Ford

Second Law of Software Architecture

***“Why* is more important
than *how*”**



Judges Criteria

architecture decision records - documentation and justification

Use Microservice Architectural

Context and Problem Statement

Considering the functional and non functional requirements, we set up to choosing a suitable architecture

Considered Options

- Monolith Architecture
- Microservice Architecture
- [Serverless Architecture](#)

Decision Outcome

Chosen option: "Microserive Architecture" for the following reasons:

- Scalability: Horizontal scalability is easy to implement
- Adaptive and Dynamic: change is fairly easy to implement and integrate
- Availability: Replication and no single point of failure make it possible to ensure high availability
- Elasticity: System can be scaled up and down depending on the usuge
- Ability to integrate different technologies

Negative Consequences

- More complex to implement
- Data consistency and transaction management is a challenge

1. Service-based approach

Date: 2021-04-27

Status

Accepted

Context

Use Event Driven Architecture

Context and Problem Statement

After we decided that we wanted to use microservice architecture, we needed to defined how would these services communicate

Considered Options

- Event Driven
- Synchronous Rest API calls
- Mix of both

Judges Criteria

architecture decision records - documentation and justification

Results Queue

Context and Problem Statement

The use of event driven Architecture create the challenge of reporting success and errors that happen asynchronously to users

Decision Outcome

- Use a dedicated Queue (*Results Queue*) that contains all of the generated success messages with requested data if any and error messages
- Use a request-ID property that will allow the front-end applications to match the result events with the corresponding user actions and display the results correctly

Data Store Format

Date: 2021-05-01

Status

Accepted

Context

System requires appropriate database technology which suits the needs around Customer centric views, Product centric and Expert centric views Business critical functions knowledge base search or matching to right expert will need to be met elegantly.

Non-functional requirements around Availability, Flexibility to change also needs to be considered.

See [Datastore Solution Overview](#) for the analysis.

Decision

We will use a graph database as a data store for SysOps Squad.

8. Move payment-relevant data into separate database

Date: 2021-04-30

Status

Proposed

Context

Payment information is in the same database as the rest which increases the chance of credit card information

Decision

Move payment-related information into separate database and restrict access to this db only to the billing func

3. Segregate ticket creation into a separate container

Date: 2021-04-29

Status

Accepted

Context

Usage spikes of the system might lead to not being able to enter tickets, system freezes and the percept

Decision

Segregate ticket creation into a separate service. Create a persisting ticket queue to decouple the ticket cr



Architecture Katas Semi-Finalists



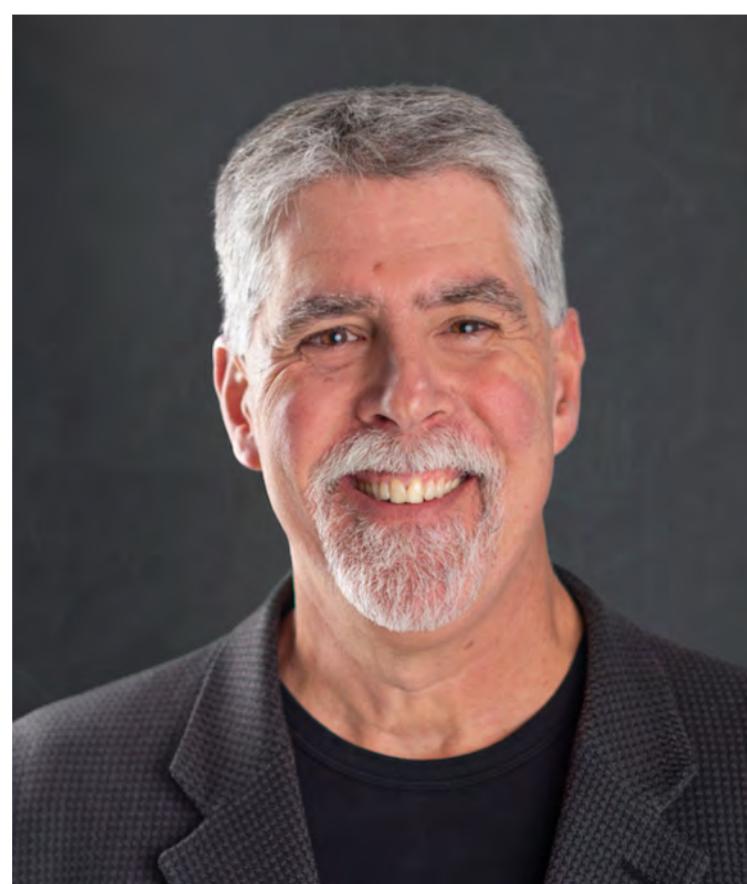
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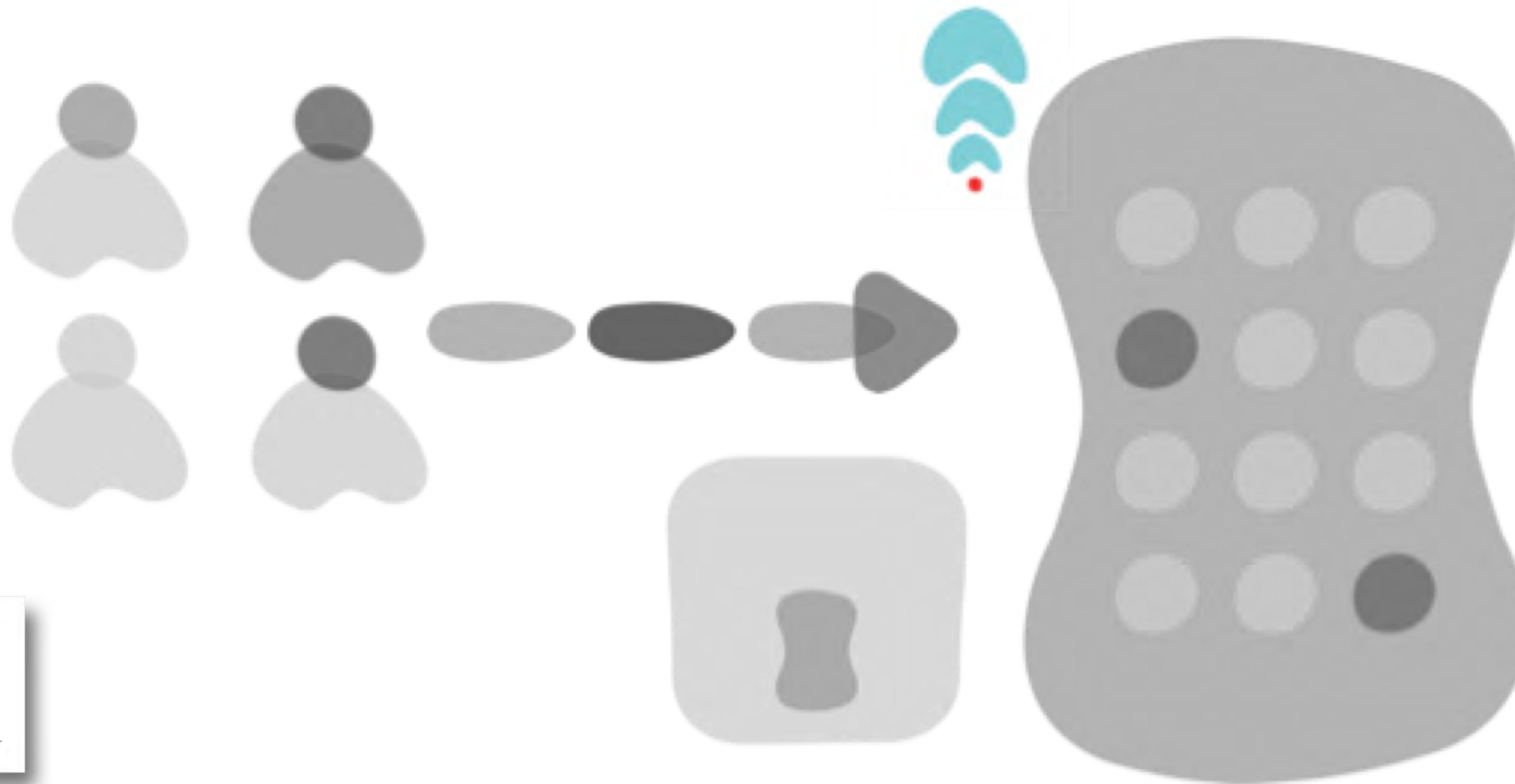
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Architecture Katas Online



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NEAL FORD

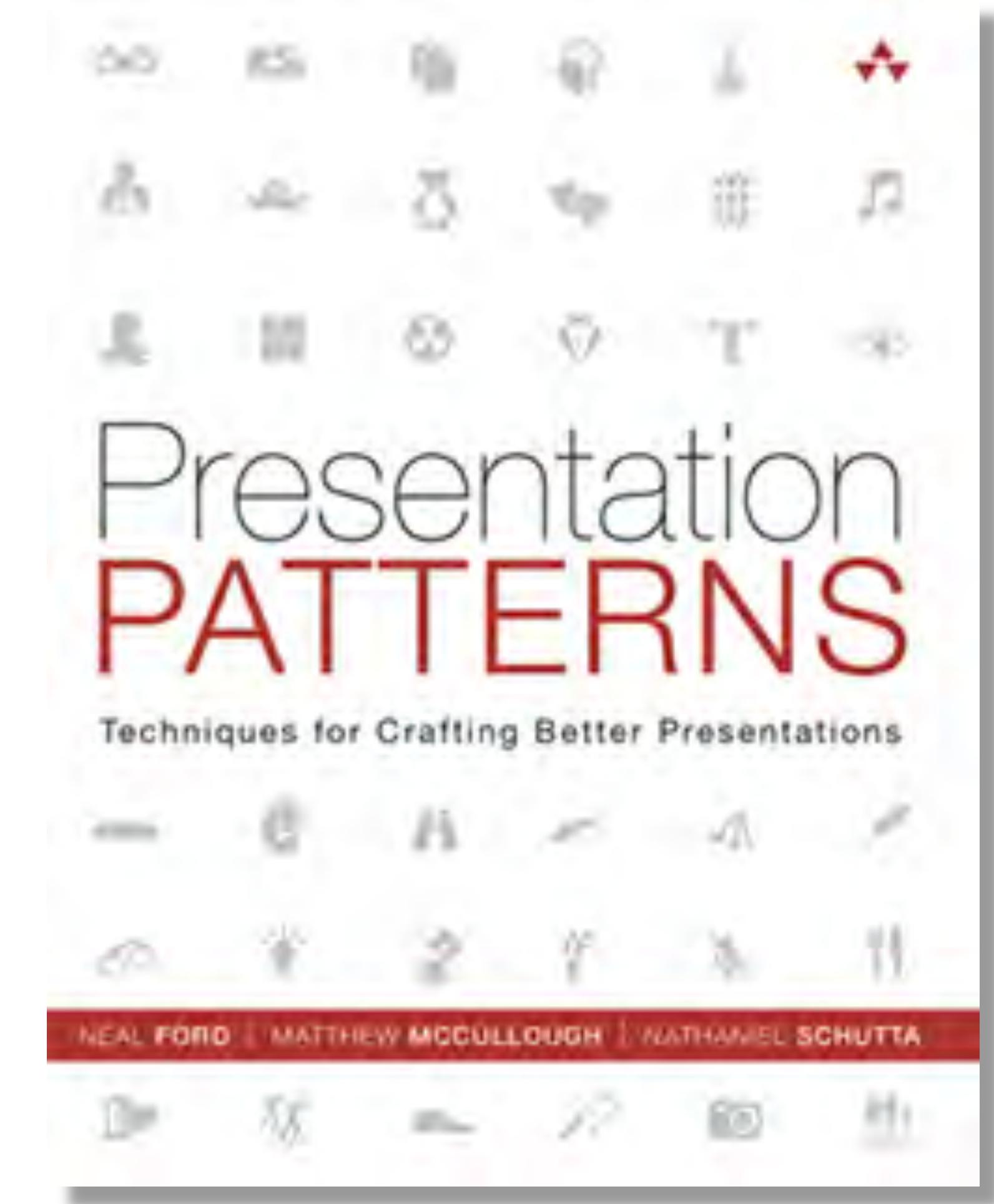
Director / Software Architect / Meme Wrangler

 @neal4d

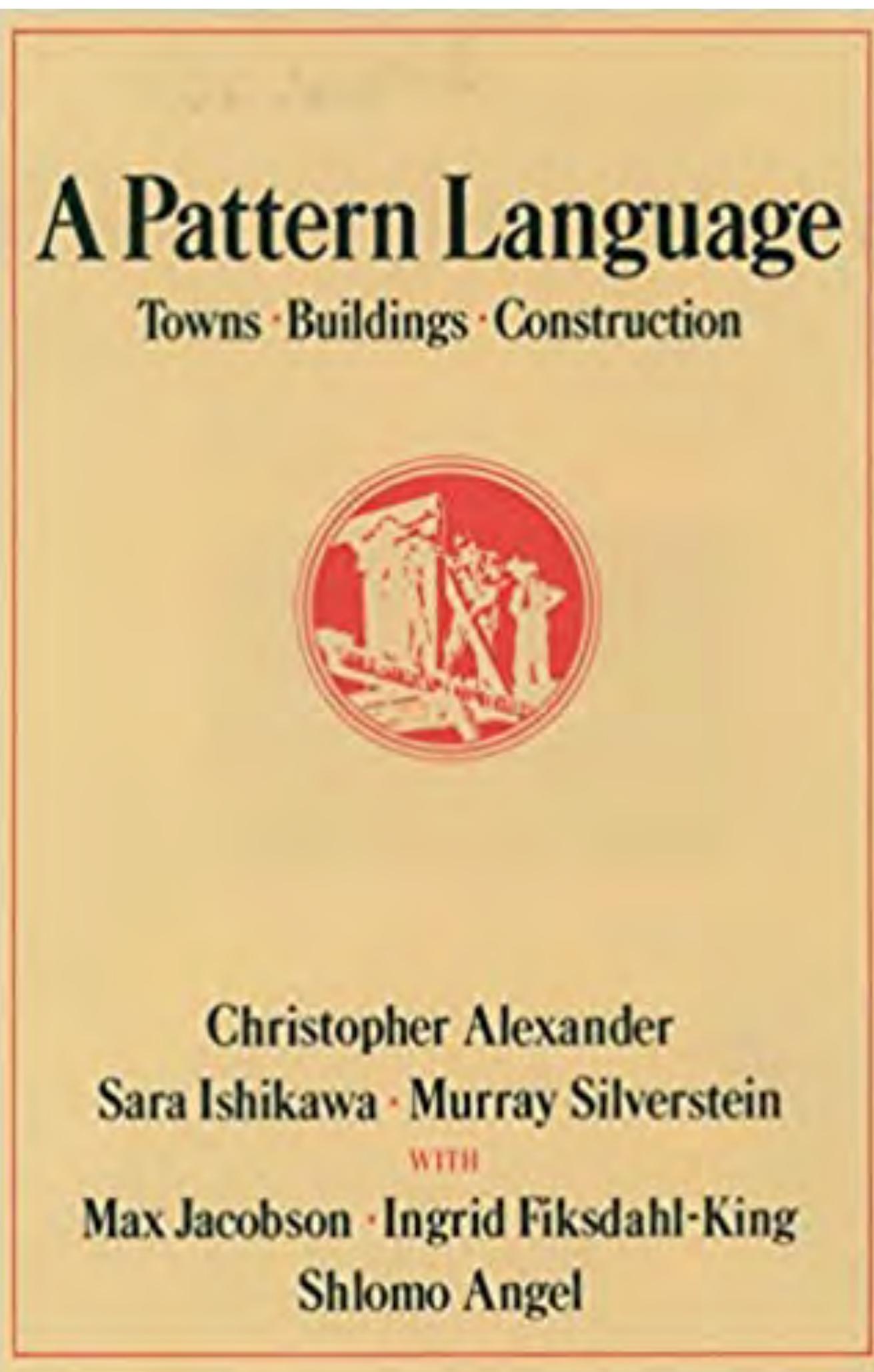
<http://nealford.com>

Agenda

- Semi-finalists for Sysop Squad
- Some perspectives on architecture presentations
- Q&A



Pattern



Design Patterns

Elements of Reusable
Object-Oriented Software

Erich Gamma
Richard Helm
Ralph Johnson
John Vlissides



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Foreword by Grady Booch



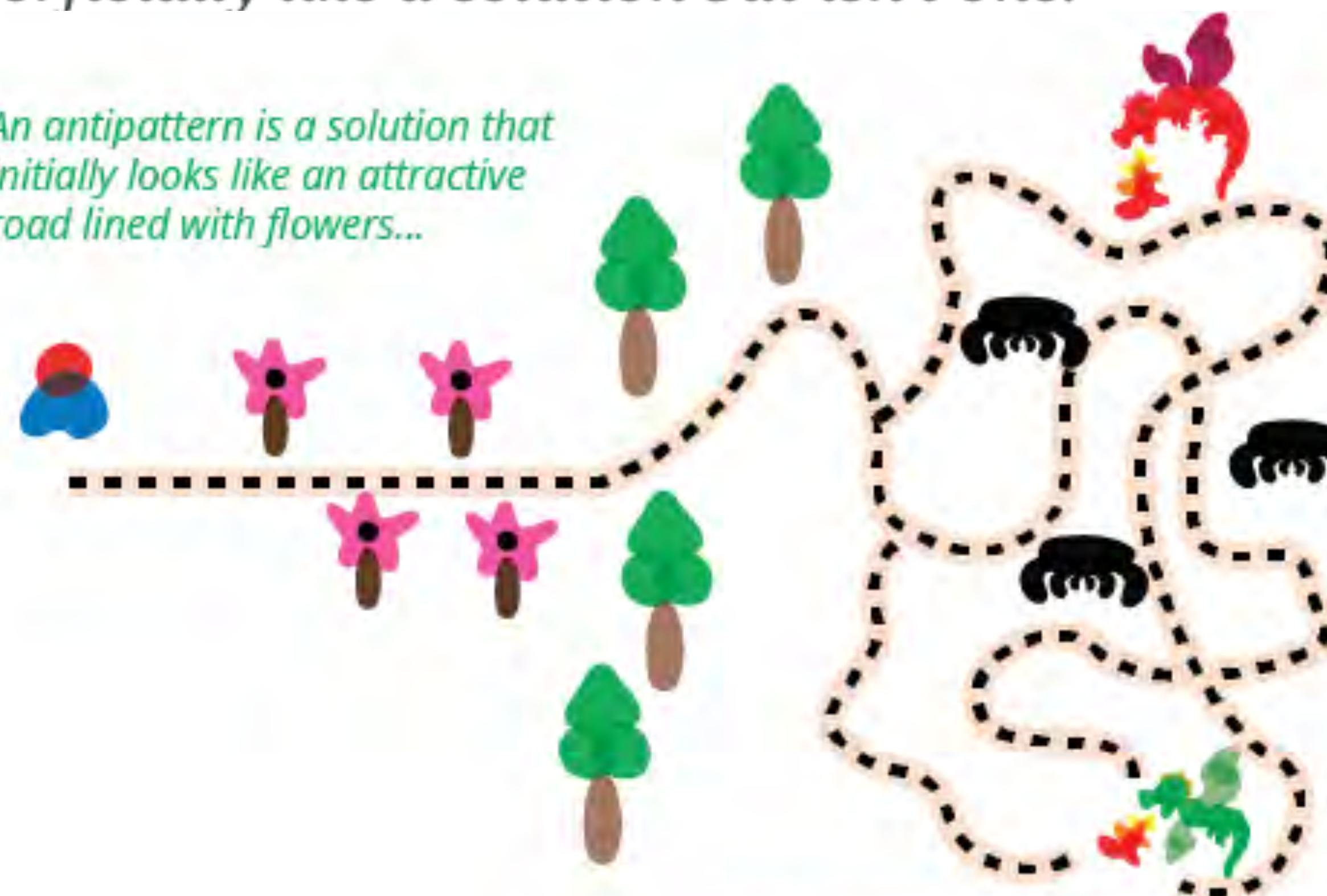
ADDISON-WESLEY PROFESSIONAL COMPUTING SERIES

Anti-pattern

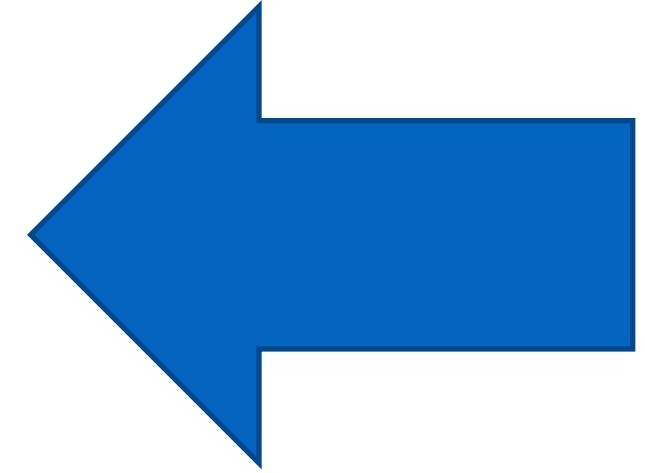
An antipattern is just like a pattern, except that instead of a solution it gives something that looks superficially like a solution but isn't one.

-- Andrew Koenig

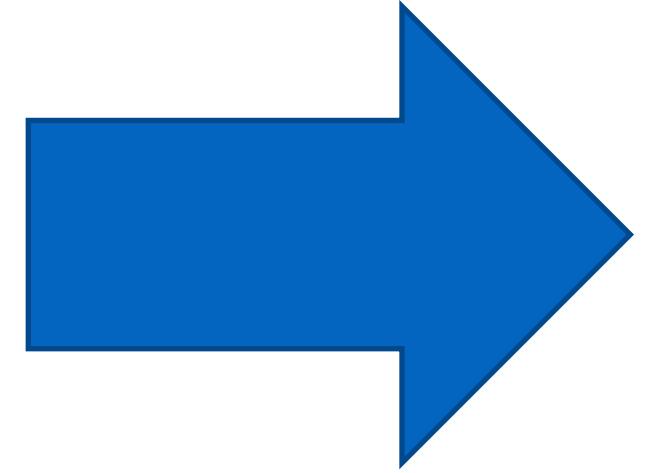
An antipattern is a solution that initially looks like an attractive road lined with flowers...



...but further on leads you into a maze filled with monsters



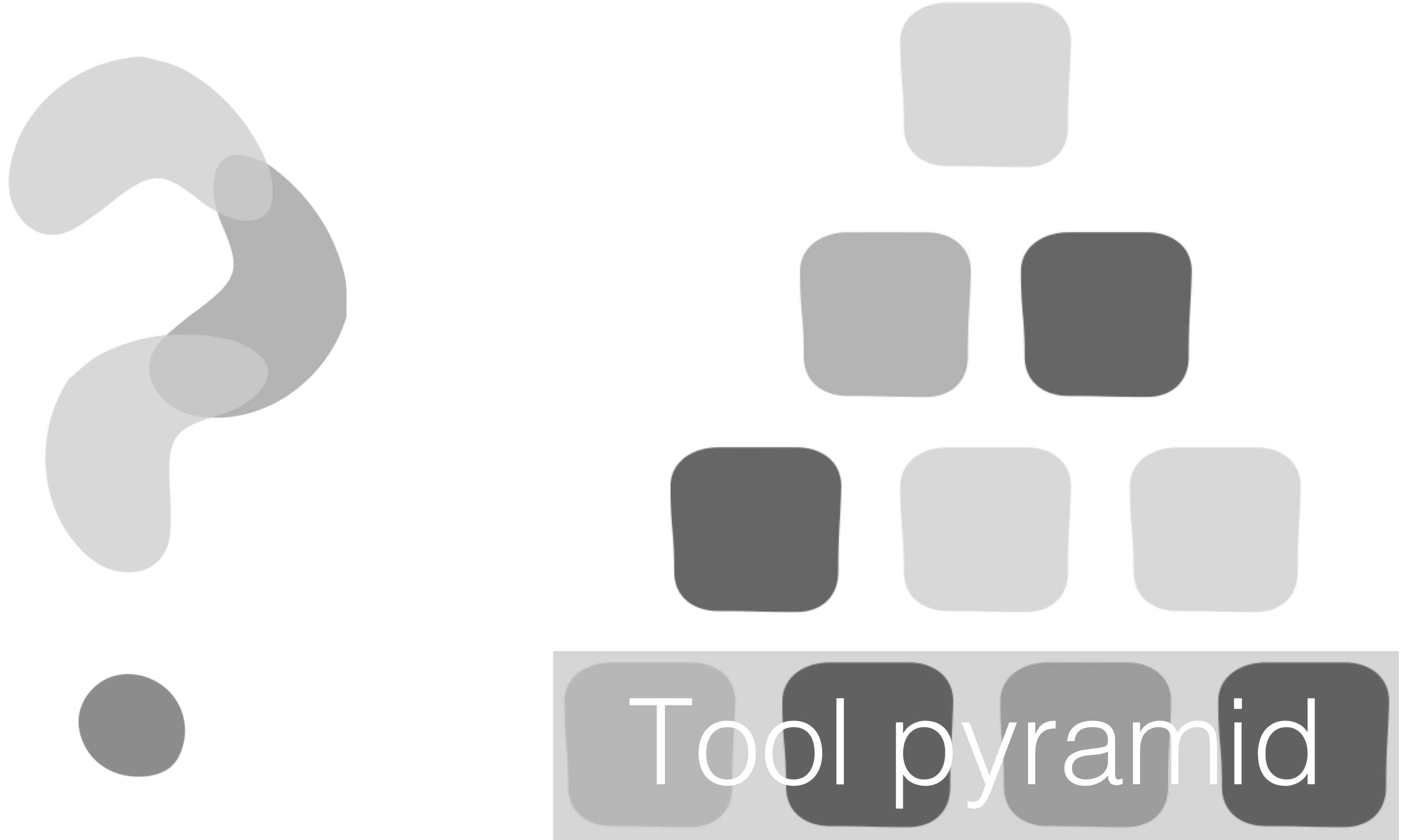
Where we are (on24)



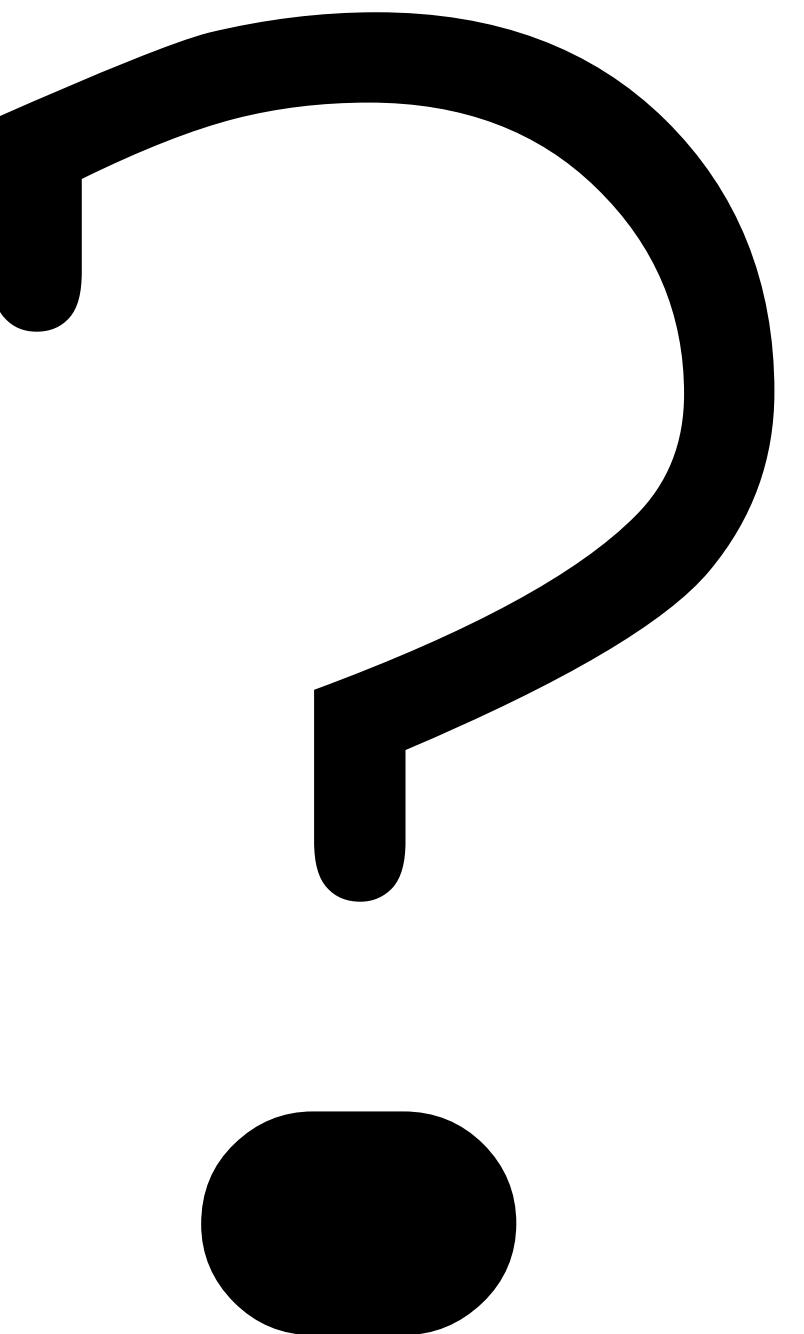
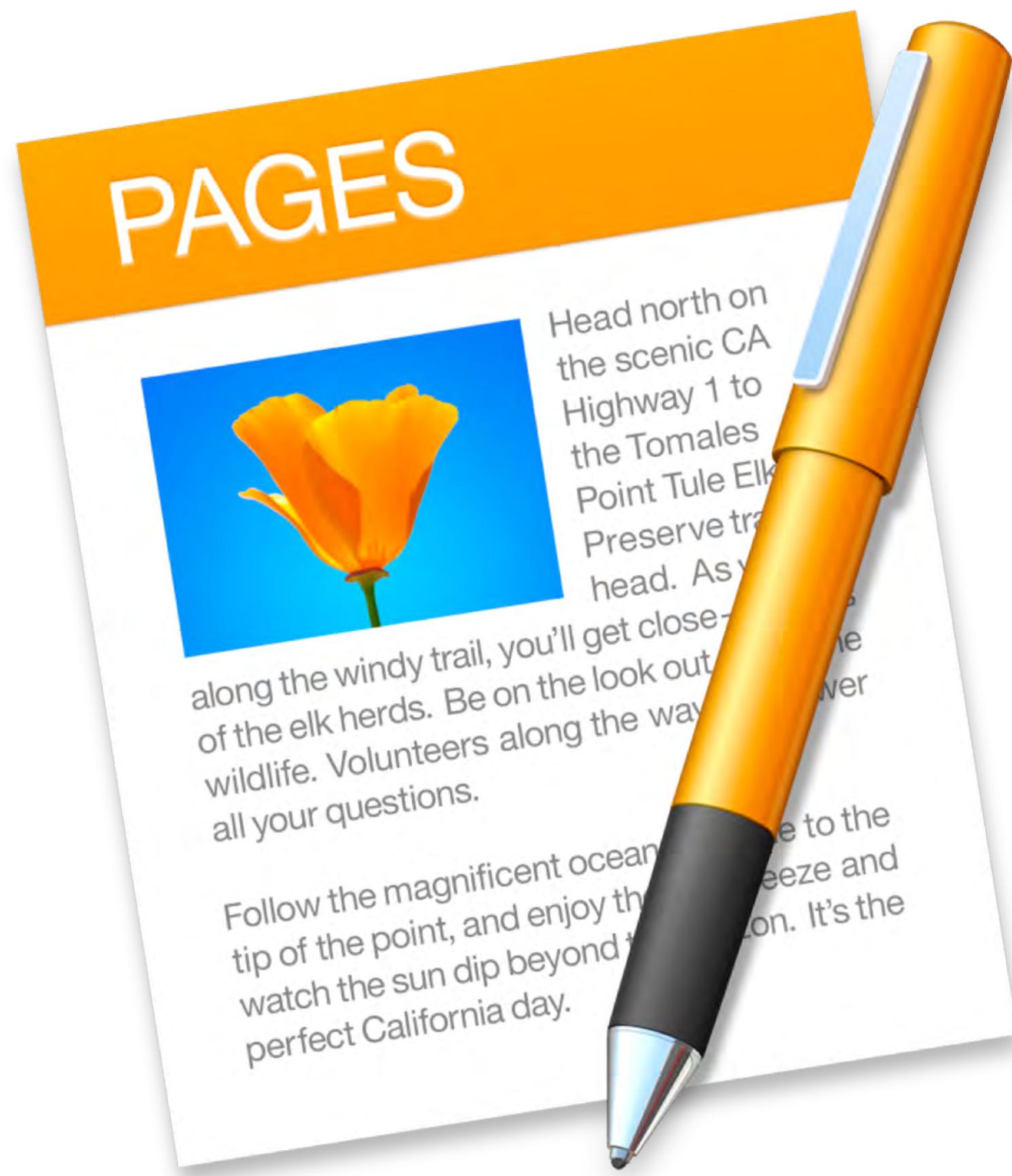


Prezi

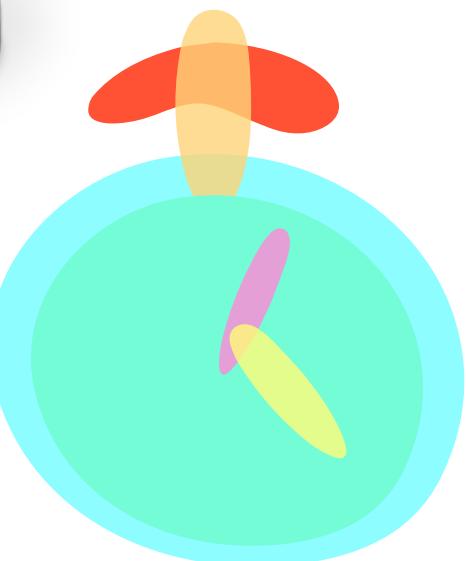
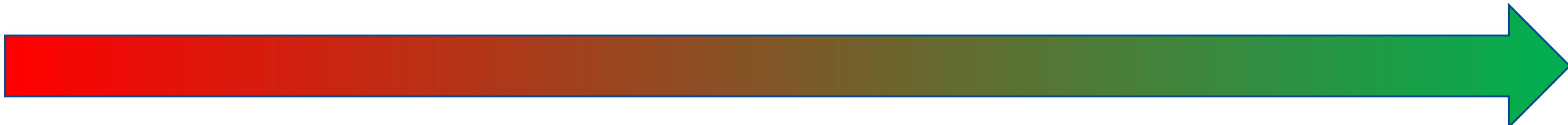
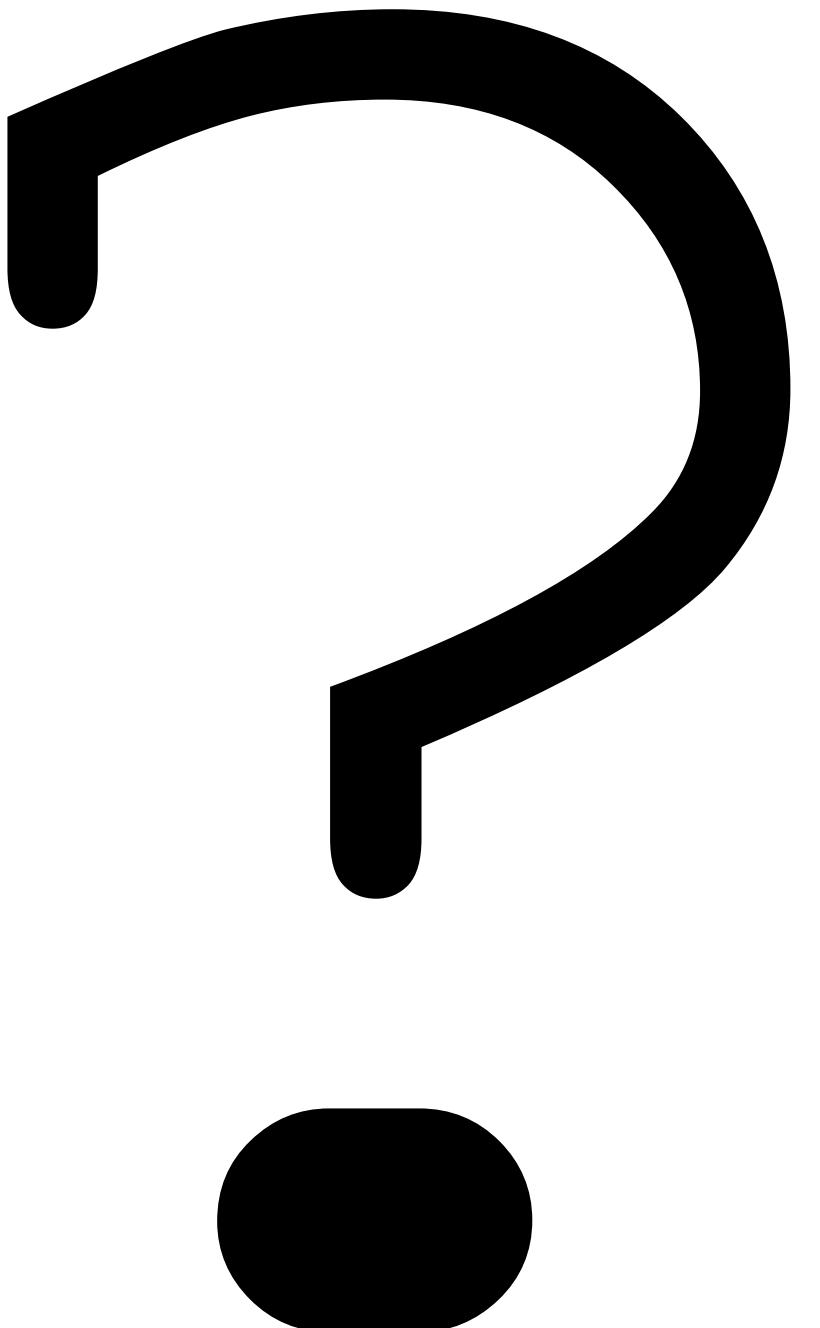
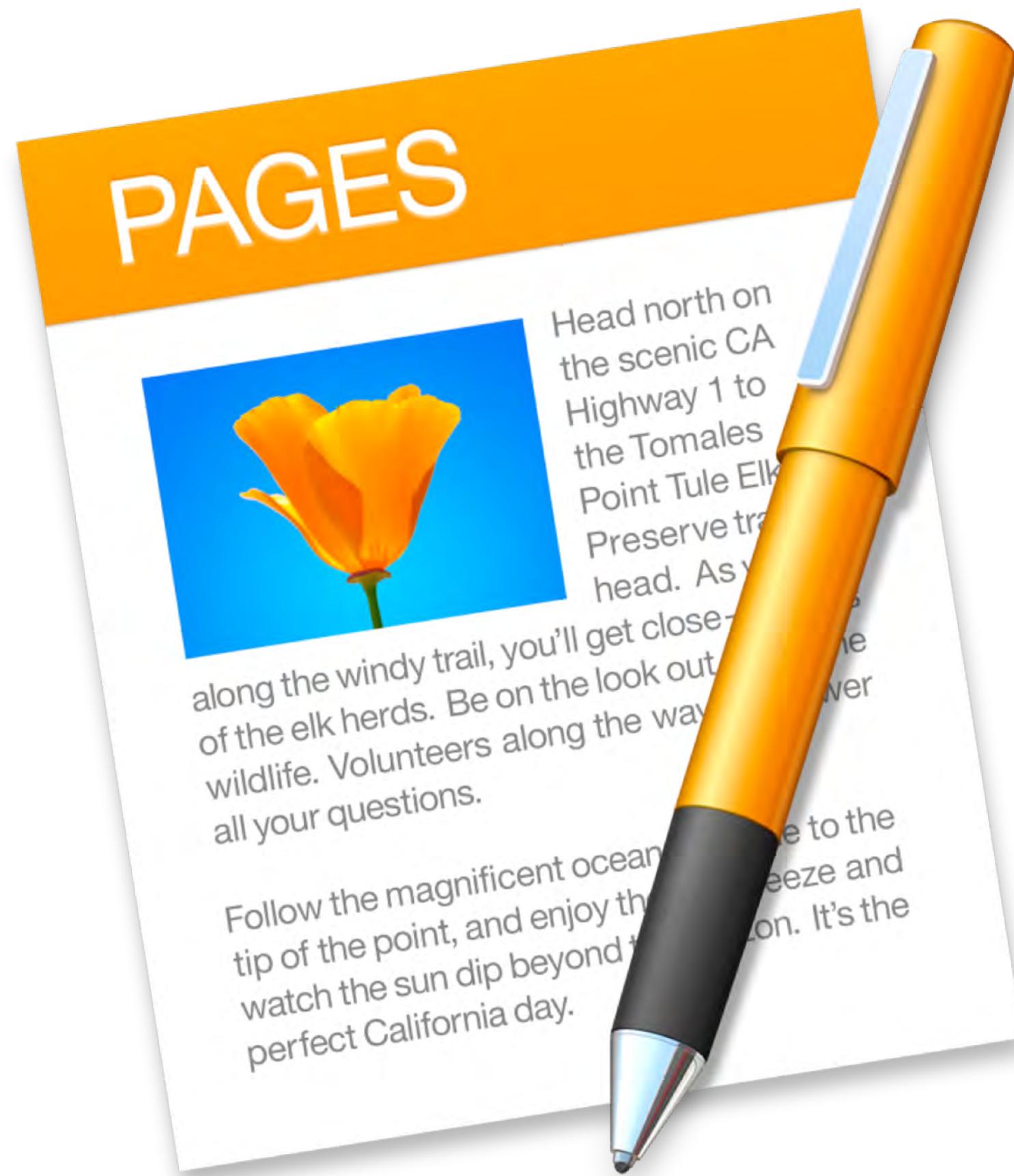




For information exposition...

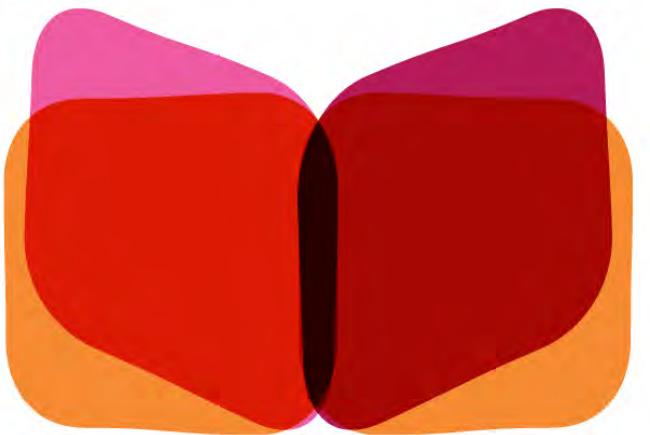


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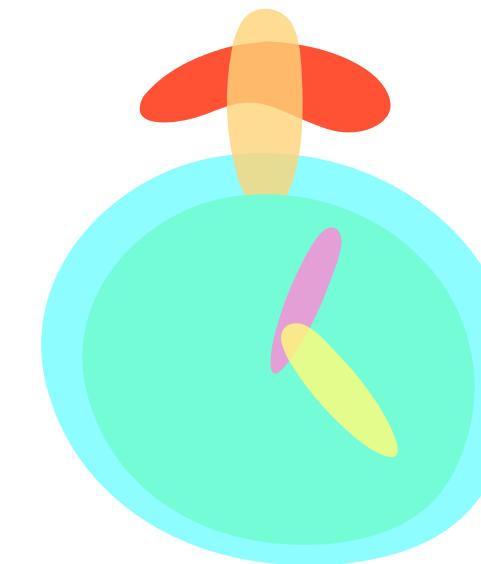
InfoDeck versus Presentation

InfoDeck



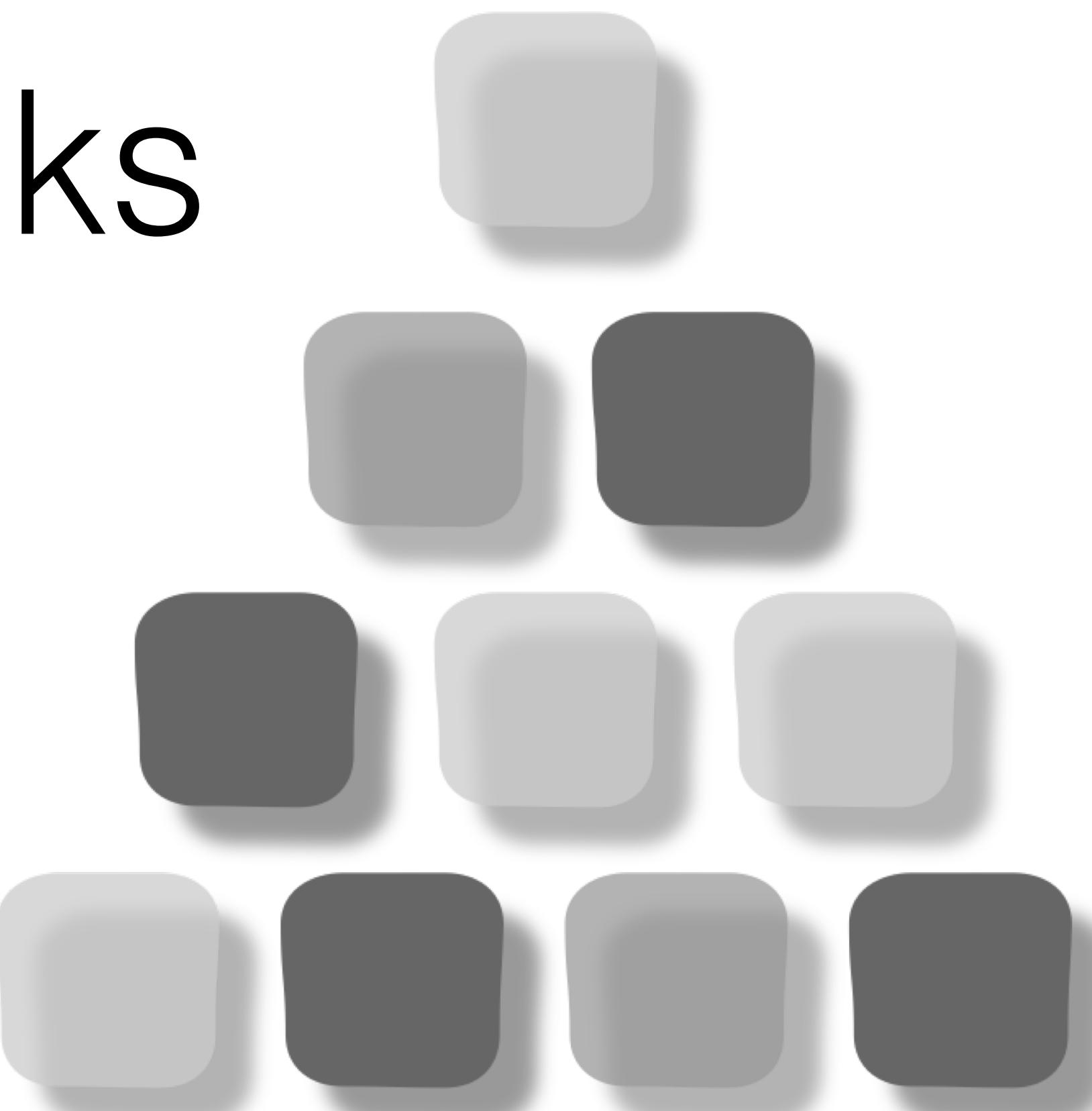
An Infodeck is a document created with presentation tools that is intended to be distributed—and never presented before an audience—to convey information.

Presentation



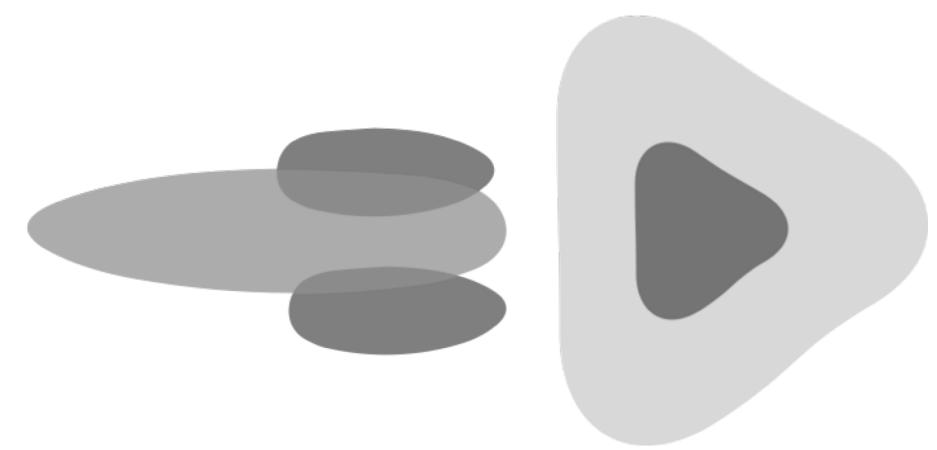
A presentation uses purposeful transitions and animations to manipulate time so that the presenter controls the exposition rate.

Building Blocks



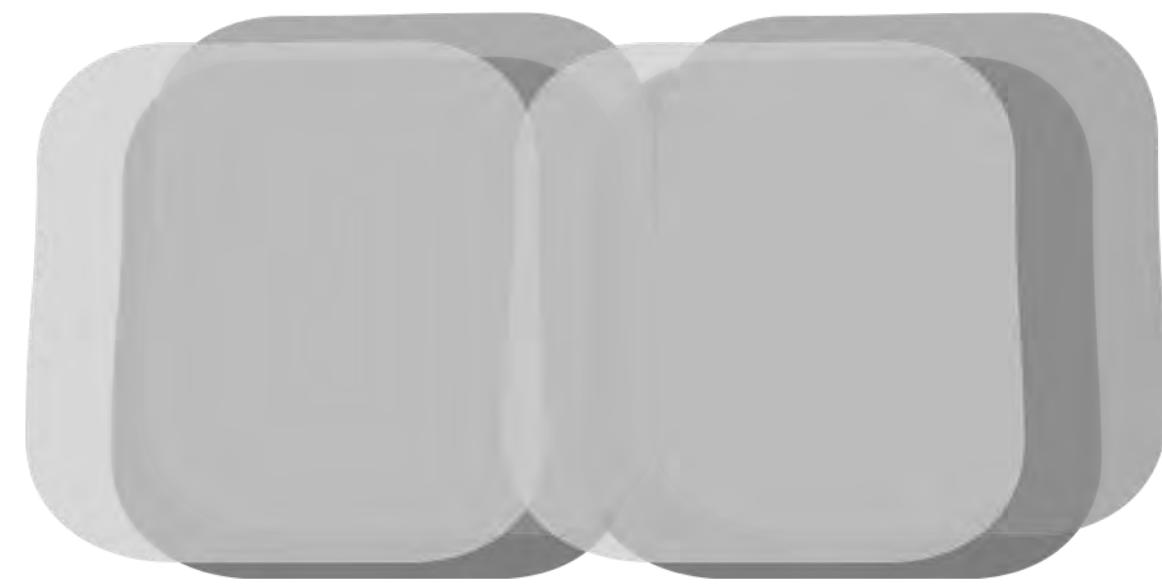
Exposition

animation



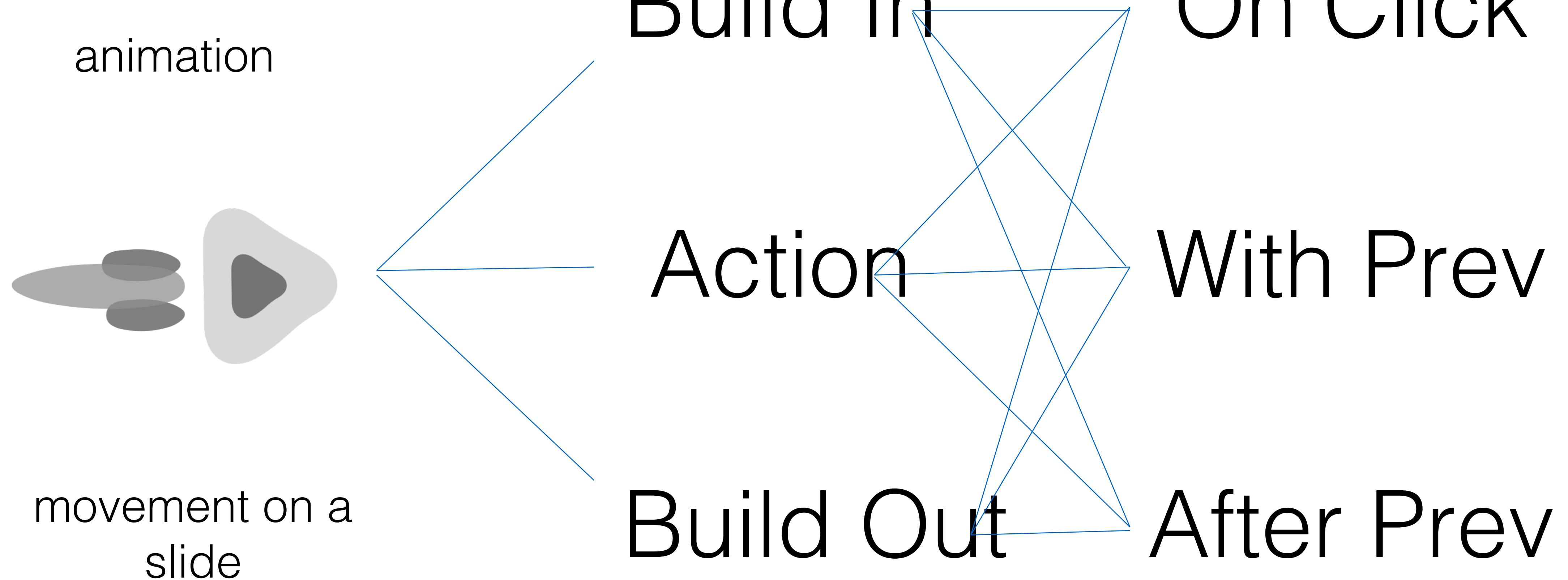
movement on a
slide

transition



movement between
slides

Exposition



Q: What kinds of presentations do technologists have to make?

Architecture plans

Forensic reports

Showcases

Proof of concepts

Appear animation with
Timing set to After previous

Project pitches

Cross-organization
explainers

Why use animations/transitions?

1—Narrative Arc

2—Cookie-cutter Anti-pattern

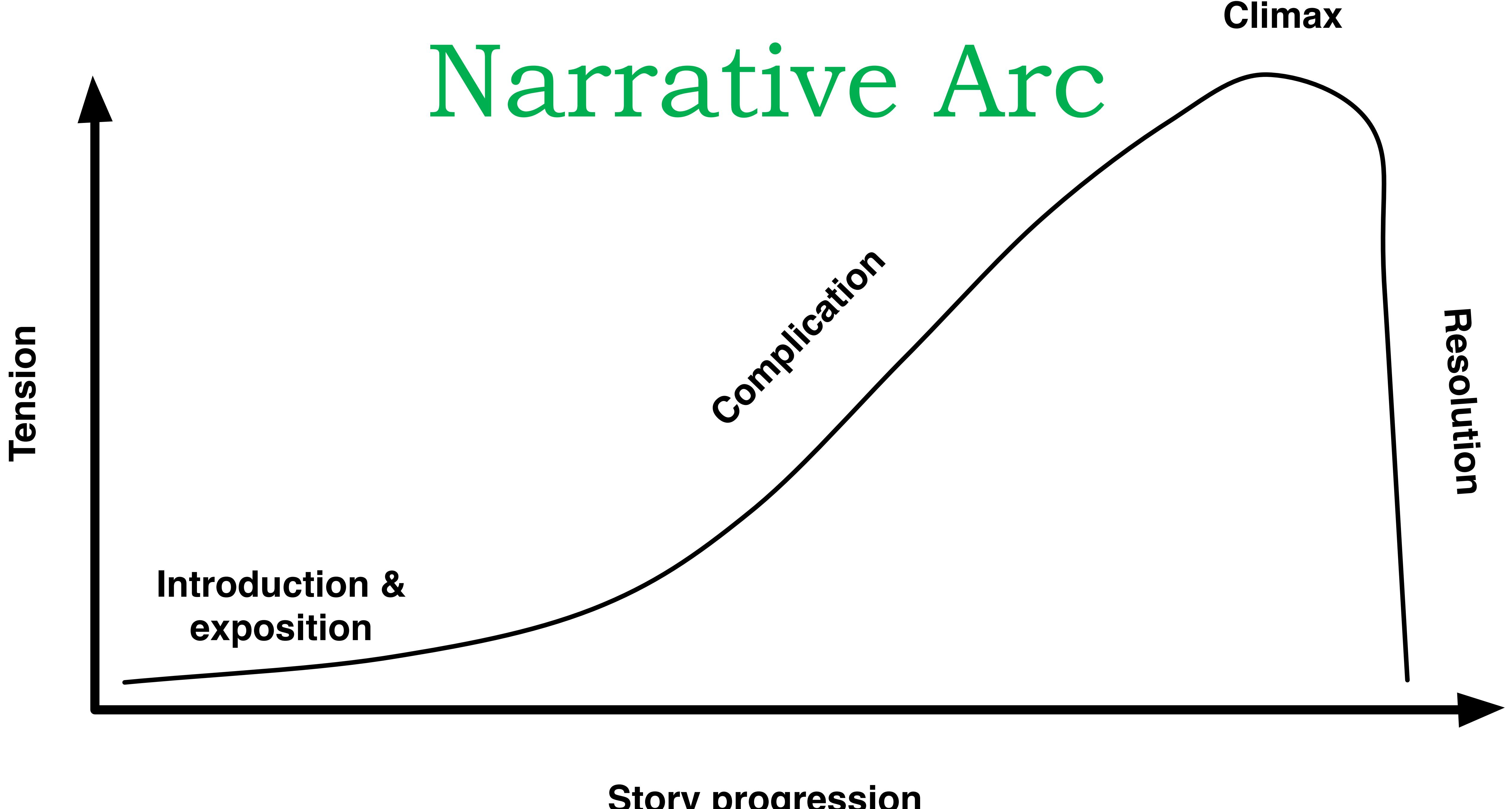
Narrative Arc

Presentations are a form of storytelling; don't ignore a few thousand years of oratory history.

Narrative Arc

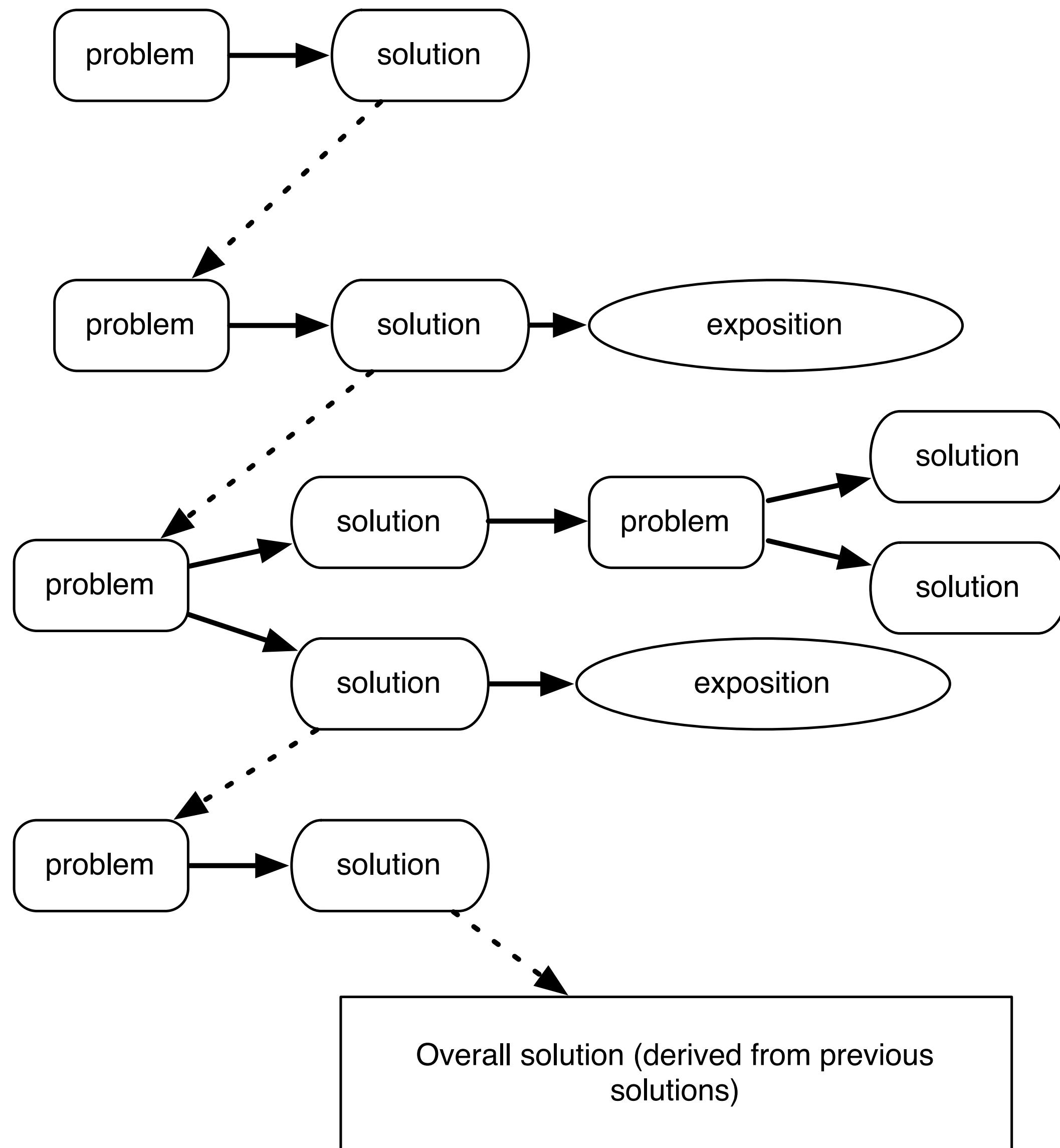
A Narrative Arc is a common trope; organizing your presentation in a similar way leverages your audience's lifetime of story listening experience.

Narrative Arc



Narr A

Overall problem



The Big “Why”

You should be clear with yourself and to your audience as to why you’re giving this talk. It is a critical foundation for the vector you are using to address this talk’s topic. Clarifying your motivation does not rule out giving a talk for money, as advertising, to educate, or just to inspire.

The Big “Why”

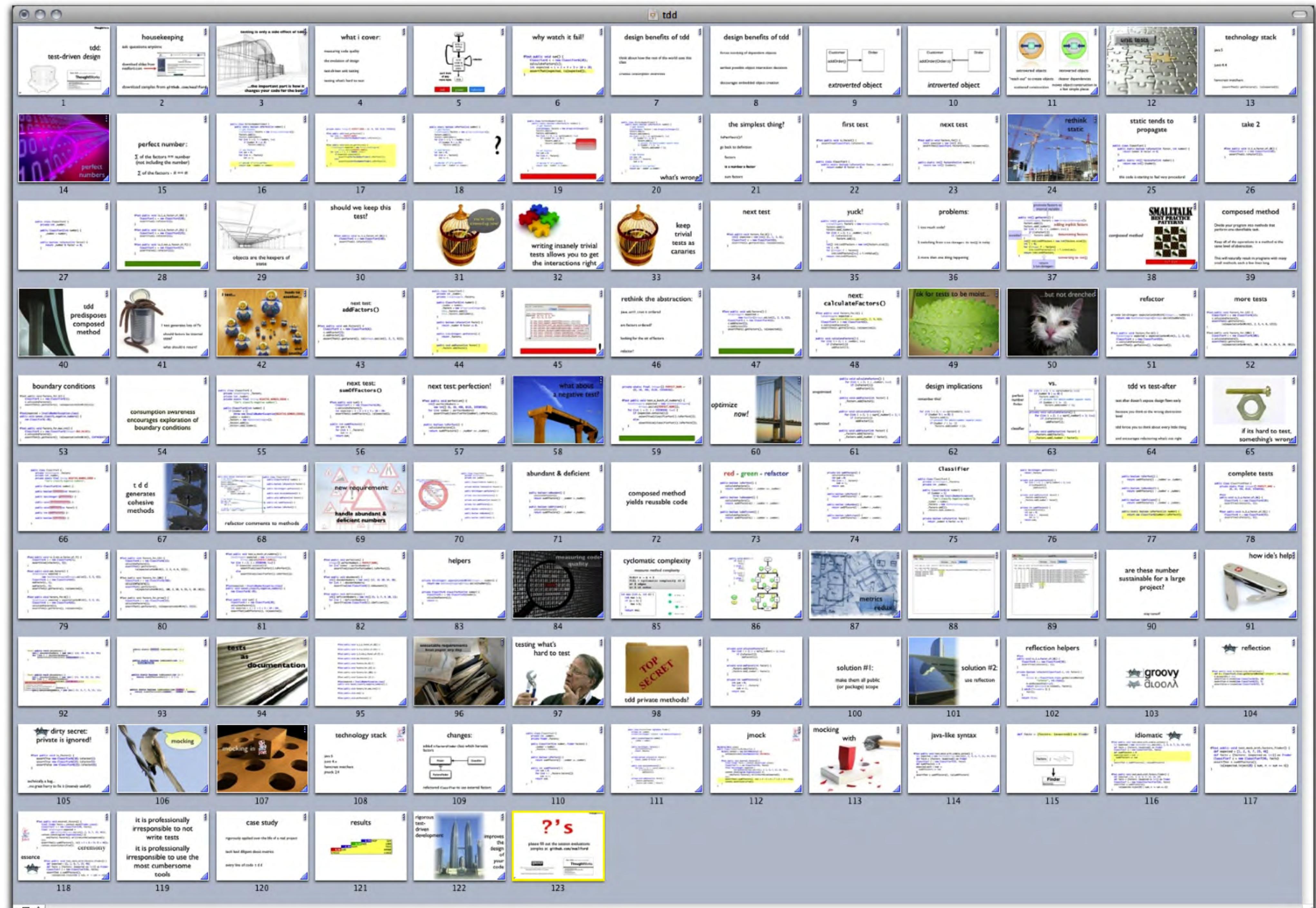
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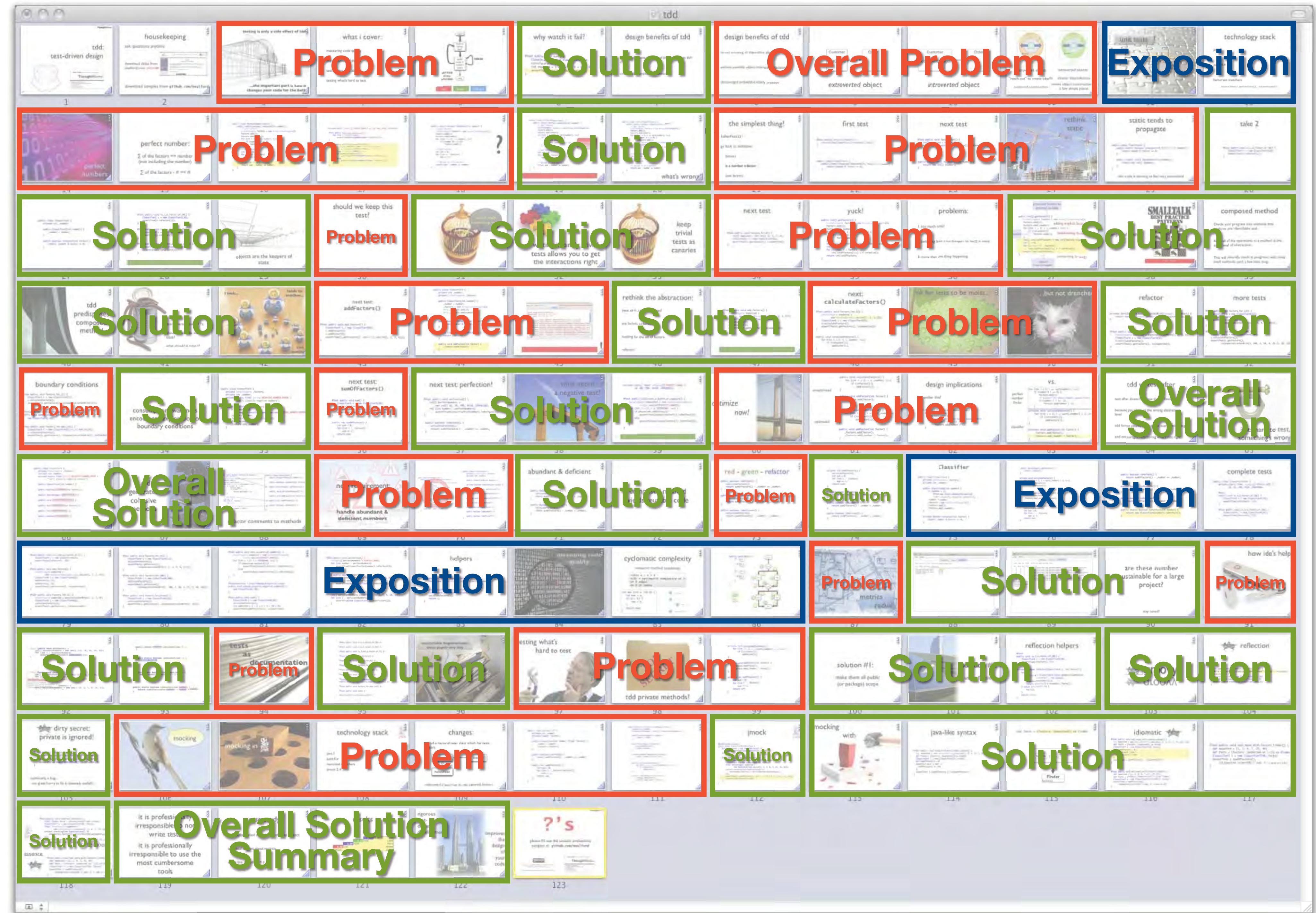
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Narrative Arc

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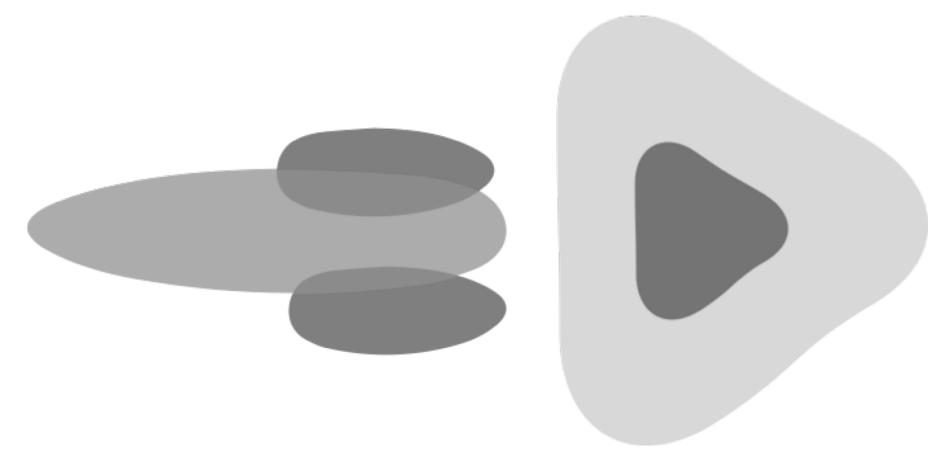
Why use animations/transitions?

1—Narrative Arc

2—Cookie-cutter Anti-pattern

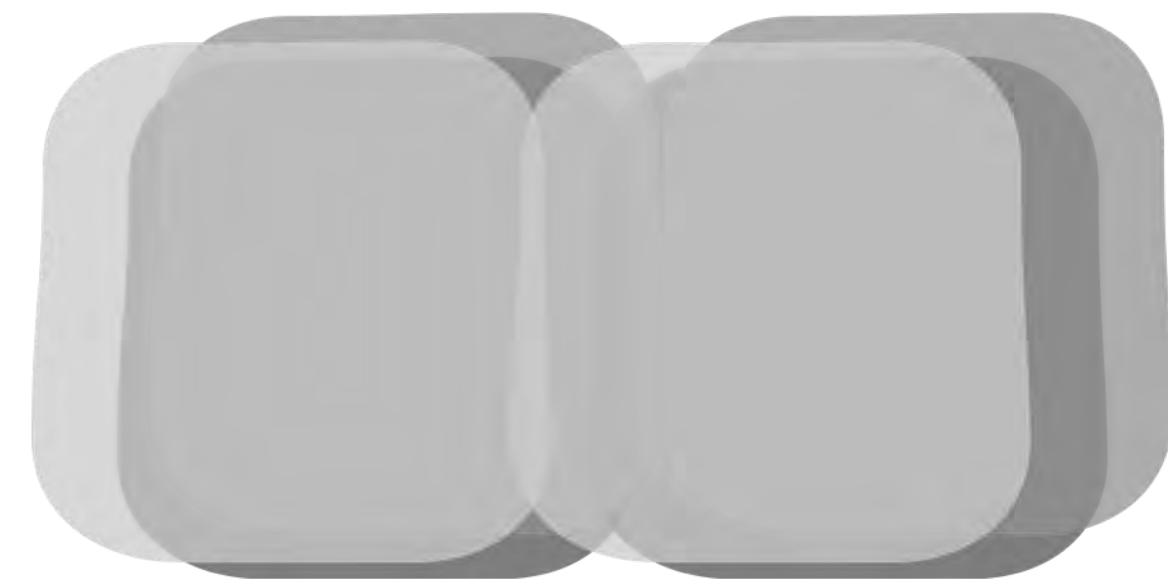
Which ?!?

animation



movement on a
slide

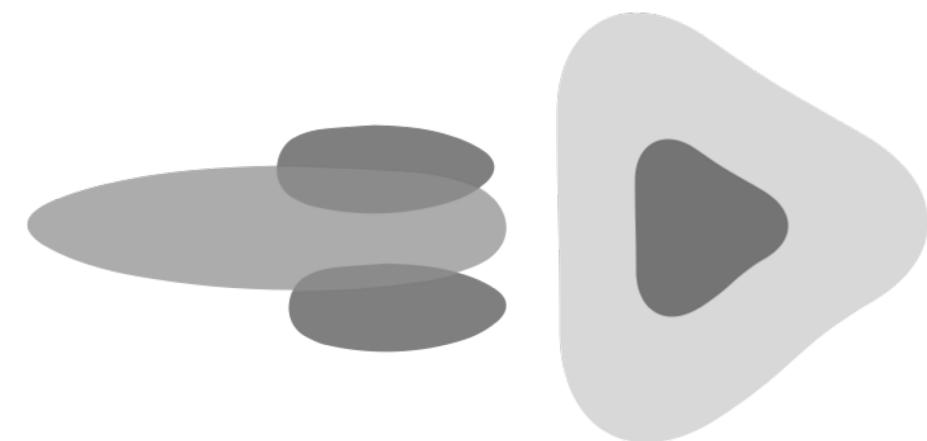
transition



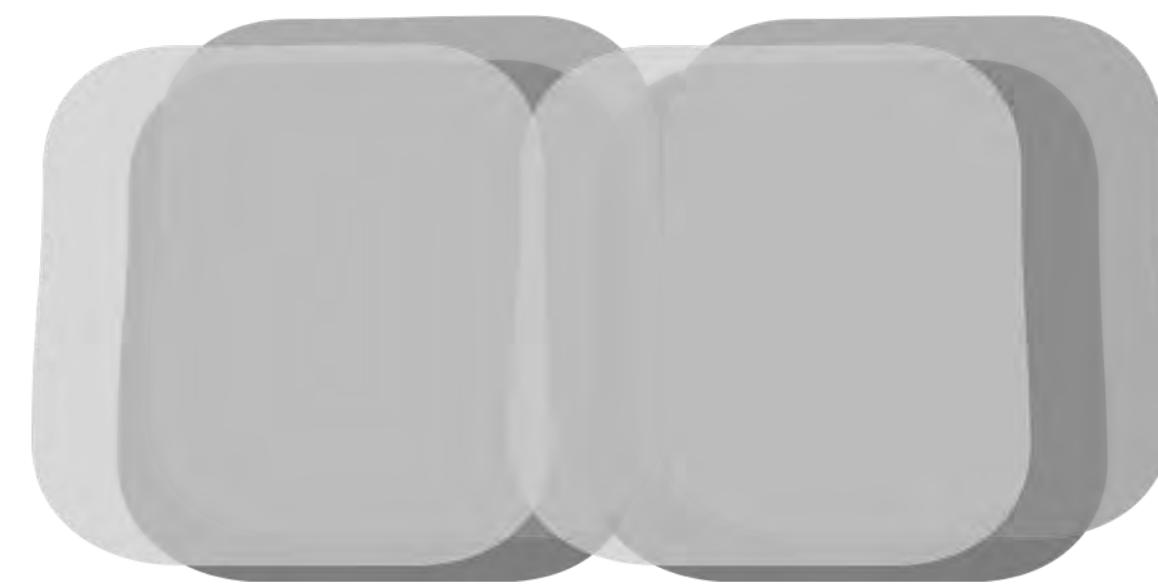
movement between
slides

Which ?!?

animation



transition



- More compact decks
 - Prints complete slides
- “spreads out” the presentation
- Allows return to ad-hoc part of a build

Composite Animation

A composite animation is when more than one simple animation provided by the presentation tool is applied to an object for a more impressive and educationally helpful combinatory effect.

Screen Share

Magic Move

Composite Animation

Cookie Cutter



Ideas don't have a predetermined word count and accordingly you shouldn't artificially pad content to make it appear to fill a slide.

Cookie Cutter



No law says that every thought worth having
will fit on a single slide, so stop trying.

Cookie Cutter



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Communities

We have recently changed our community structure, giving non-billable time to specific communities with the greatest need, in order to facilitate evolution, including those that support the following global objectives:

- Communities take ownership of the evolution of our capabilities / all gaps are filled and can in theory grow
- ThoughtPedia becomes default place for people to look for resources, best practices, information
- Community discussions are moved into practical boardrooms
- Encourage innovation and interaction with local and global innovation leads

Client Service Model

...underpinned by Communities

Communities

Technical Analysis & Testing Mgmt Business Social & Internal

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Communities Blueprint

Global leads for these specific communities (identified under Main Communities Board) have been identified and have been asked to complete a 12 month vision and 3 month plan per the templates on the slides that follow in order to support their communities specific initiatives.

Main Communities				
Business Development	Analysis & Testing	Mgmt	Business	Social & Internal
Business Development	Analysis & Testing	Mgmt	Business	Social & Internal
Business Development	Analysis & Testing	Mgmt	Business	Social & Internal
Business Development	Analysis & Testing	Mgmt	Business	Social & Internal
Business Development	Analysis & Testing	Mgmt	Business	Social & Internal

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Community Ruby: Current State Assessment

THE GOOD

- Adoption Immediate:
 - People want them – they're filling a gap
 - They're helping on projects
 - Were previously about one taking
- There are experts other than usual suspects
 - More experts are visible now, increasing impact
 - Concept of a pool of experts is powerful
 - They're talking together more in new forums
- They're asking for things
 - New service offerings are building up
 - Communities are asking for what they want
 - Confidence that, if they ask, it might happen
- Big potential here
 - External branding
 - Circles of excellence
 - Mentoring
 - Innovation
 - Direction setting

THE BAD

- Potential requires investment
 - Start and long term
 - Current responsibilities too much
 - New responsibilities are more
 - No paradigm for changing this
- Implementation is unclear
 - Communities owning capabilities
 - Helping set direction of company is big issue
- Specific communities have an uphill battle
 - Encouraged that certain organizations
 - Sales, Marketing, Delivery work in tandem
 - Expenses/Communities involved
 - We need to either move
 - Regardless, will require heavy investment
- Many coordination points
 - Global and Regional expert
 - Demand, Delivery, IT
 - Training, Career Development, Innovation
 - Delivery Assurance

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Communities: Vision 2008 (12 month vision)

- All communities are mature
 - No gaps in capabilities/knowledge
 - Multiple initiatives moving forward
 - Driving continual improvement
- Community leads are external facing
 - Articles, books, conferences, white papers
 - Known in industry
- Synergy between communities
 - Sales, Marketing, Delivery work in tandem
 - Expenses/Communities involved
- Communities promote & support experts
 - Create a powerful pool of experts
 - More justify more small # of usual suspects
 - Pool into fast external branding power
 - Write articles, books, power to change IT
- Communities live & breathe on own
 - Own Capabilities, Own Marketing Material
 - Own Conferences, Own External Branding
 - Identify Training / Skills Needed
 - Own community specific training materials
- Bubble up what's happening
 - Training needs / Staffing needs / Miss / Deliverables

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Communities: Key Actions Needed to Achieve 2008 Vision/Close Gaps Actions

- Increase community lead / experts investment in proportion to headcount
- Increase non-billable time for leads / experts as necessary to meet long term goals
- Clarify how input and leads will work together
 - How will they be involved in leadership decisions
 - How will they / communities help set direction
- Give support for community leads to fill in gaps
 - Special support to communities in need (e.g. Sales, Marketing, CP)
 - Special support for inspiring sales to delivery
- Help leads and other experts become external facing
 - Conferences, books, whitepapers, video and execution on desired visibility
 - Possibly obtain in advisory work
- Increase external branding
 - Big picture - a ThoughtWorkers tools offering – to help change IT
 - Identify external channels to build external brands
 - e.g. culture, banner, press, articles, videos
 - Pool of experts are limited, not just community leads
 - ThoughtWorks and Community branding, through individual branding is good time
- Lighten burden where possible (especially areas where we lack skills)
 - Strategy capabilities, content and sales material

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Communities: Significant Initiatives Needed to Achieve 2008 Vision

- Recruit technical writers
 - Turn over capabilities content writing and sales material writing to technical writers
 - Full time position
- Global leads and smaller group of experts full time
 - To support of communities, initiatives, external branding
 - To support of monitoring of specific projects by request
- Support Global Leads to become external facing
 - Development, opportunities, etc
 - Billable advisory work (high value consultancy services)
- Special non-billable time given to specific community initiatives on TSO basis
- Introduce 'Plenter' role for projects
 - PMs, CIs, Testers, Analysts, Architects, etc to visit at project's request for advice / mentoring / direction
 - In support of Delivery Assurance, introduction of consistent practices, knowledge increase & role growth
 - Should have immediate positive impact on delivery risk
- Move to model of 'critical path' staffing versus long term staffing
 - Pool of experts in each region area / staffed long term on projects
 - They're staffed for 'critical periods' and then move to different projects
 - Prevent them to act as mentors on multiple projects during critical periods
 - Moves us away from 'usual suspect' staffing (why it and it can do this type of thing)
 - People that can do it aren't being challenged – we just bring on the experts full time – not working

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Communities: Vision 2008 (3 month plan)

- Initiatives to Tackle:
 - Drive people more regularly to the Thoughtpedia page
 - Establish a ThoughtWorks presence at all Ruby conferences
 - Innovative Ruby books written by ThoughtWorkers
- Significant Actions Needed:
 - Add more content from community that doesn't come from email threads
 - Have community lead subscribe
 - Add provocative quotes
 - In progress:
 - Jay Fields & Neal at RailConf Europe
 - Dan Herges getting permission for 2 small regional conferences
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 - Innovative Ruby books written by ThoughtWorkers
 - Jay, Shane Harvey, Martin working on Refactoring in Ruby
 - Neal & Zack working on a DSLs in Ruby book
 - Dan contributing to Rails Recipes

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Communities 12 Month Plan

- Initiatives:
 - Identify barriers to Enterprise adoption of Ruby
 - Constant presence at Ruby events and conferences
 - Writing
 - Books
 - Blogs
- Actions
 - Sponsor projects (open source) to solve problems
 - Update CPPs on communities site to encourage ThoughtWorkers to speak
 - Identify potential writers
 - Create a TW-Ruby blog aggregator like Planet-TW?

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Cookie Cutter



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Communities

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- Encourage innovation and interaction with local and global innovation leads

Client Service Model

...underpinned by Communities

Communities

Technical Analysis & Testing Mgmt Business Social & Internal

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Communities Blueprint

Global leads for these specific communities (identified under Main Communities Board) have been identified and have been asked to complete a 12 month vision and 3 month plan per the templates on the slides that follow in order to support their communities specific initiatives.

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Business Development	Analysis & Testing	Mgmt	Business	Social & Internal
Business Development	Analysis & Testing	Mgmt	Business	Social & Internal

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 - Communities are asking for what they want
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- Big potential here
 - External branding
 - Centers of excellence
 - Mentoring
 - Innovation
 - Direction setting

THE BAD

- Potential requires investment
 - Start and long term
 - Current responsibilities for much
 - New responsibilities are more
 - No paradigm for changing this
- Implementation is unclear
 - Communities owning capabilities
 - Helping set direction of company is big issue
- Specific communities have an uphill battle
 - Communities that own a specific aspect, responsibility (Sales, Marketing, CP)
 - We need to either move
 - Regardless, will require heavy investment
- Many coordination points
 - Global and Regional aspect
 - Demand, Delivery, IT
 - Training, Career Development, Innovation
 - Delivery Assurance

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Communities: Vision 2008 (12 month vision)

- All communities are mature
 - No gaps in capabilities/knowledge
 - Default use of communities on client site (use as a selling point)
 - Objectives are proactive, not reactive
 - Help set company direction
- Synergy between communities
 - Sales, Marketing, Delivery work in tandem
 - Experts/Communities involved meaningfully in Sales
 - More justify more small # of user requests
 - Pool into fast external branding power
 - Write articles, books, power to change IT
- Communities promote & support experts
 - Create a powerful pool of experts
 - More justify more small # of user requests
 - Pool into fast external branding power
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Communities: Key Actions Needed to Achieve 2008 Vision/Close Gaps Actions

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 - Special support to communities in need (e.g. Sales, Marketing, CP)
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 - Conferences, books, whitepapers, video and execution on desired visibility
 - Possibly obtain in advisory work
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 - Big picture - a ThoughtWorkers tools offering – to help change IT
 - Identify external channels to build external brands
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 - Pool of experts are limited, not just community leads
 - ThoughtWorks and Community branding, through individual branding is good time
- Lighten burden where possible (especially areas where we lack skills)
 - Strategy capabilities, content and sales material

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Communities: Significant Initiatives Needed to Achieve 2008 Vision

- Recruit technical writers
 - Turn over capabilities content writing and sales material writing to technical writers
 - Full time position
- Global leads and smaller group of experts full time
 - To support of communities, initiatives, external branding
 - To support of monitoring of specific projects by request
- Support Global Leads to become external facing
 - Development, opportunities, etc
 - Billable advisory work (high value consultancy services)
- Special non-billable time given to specific community initiatives on TSO basis
- Introduce 'Plenter' role for projects
 - PMs, CIs, Testers, Analysts, Architects, etc to visit at project's request for advice / mentoring / direction
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 - Prevent them to act as mentors on multiple projects during critical periods
 - Moves us away from 'usual suspect' staffing (why it and it can do this type of thing)
 - People that can do it aren't being challenged – we just bring on the experts full time – not working

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Communities: Vision 2008 (3 month plan)

- Initiatives to Tackle:
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- Significant Actions Needed:
 - Add more content from community that doesn't come from email threads
 - Have community lead subscribe
 - Add provocative quotes
 - In progress:
 - Jay Fields & Neal at RailConf Europe
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 - Innovative Ruby books written by ThoughtWorkers
 - Jay, Shane Harvey, Martin working on Refactoring in Ruby
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Communities 12 Month Plan

- Initiatives:
 - Identify barriers to Enterprise adoption of Ruby
 - Constant presence at Ruby events and conferences
 - Writing
 - Books
 - Blogs
- Actions
 - Sponsor projects (open source) to solve problems
 - Update CPPs on communities site to encourage ThoughtWorkers to speak
 - Identify potential writers
 - Create a TW-Ruby blog aggregator like Planet-TW?

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Ant Fonts

Don't use tiny fonts in a desire to cram more information on a slide.

Ant Fonts

Slide size is completely arbitrary and has no relationship to the proper size of the content.

Ant Fonts

If you ever think (or worse, say) “You probably can’t read this in the back,” you’ve failed your audience.

Ant Fonts

Slides with unreadable fonts often result from
“helpful” software that modifies font size as
you add more content.

Ant Fonts

You don't get bonus points for using fewer slides.

Slide 1: Communities
We have recently changed our community structure, giving more flexible time to specific communities with the greatest need, in order to facilitate evolution, including those that support the following global objectives:

- Community take ownership of the evolution of our capabilities/all gaps are filled and continuously growing
- ThoughtPedia becomes default place for people to look for templates, best practices, information
- Community discussions are turned into practical knowledge
- Encourage innovation and evolution with local and global innovation leads

A diagram shows the Client Service Model (Client, Analysis & Testing, Mgmt, Business, Social & Internal) underpinned by Communities, which in turn underpin the Client Service Model.

Slide 2: Communities Blueprint
Global leads for these specific communities (identified under Main Communities Box) have been identified and have been asked to complete a 12 month vision and 3 month plan per the templates on the slides that follow in order to support their communities specific initiatives.
A diagram shows the Main Communities Box (Technical, Analysis & Testing, Mgmt, Business, Social & Internal) connected to four sub-communities: Sales, Marketing, Delivery, and R&D.

Slide 3: Community Ruby: Current State Assessment
THE GOOD

- Adoption immediate
 - People want them - they're filling a gap
 - They're helping on projects
 - Other previously silent are talking
- There are experts other than usual suspects
 - More experts are visible now, increasing impact
 - Concept of a pool of experts is powerful
 - They're talking together more across forums
- They're asking for things
 - New service offerings are filling up
 - Communities are asking for what they want, confidence that it'll add, it might happen
- Big potential here
 - External training
 - Centres of Excellence
 - Mentoring
 - Innovation
 - Direct selling

THE BAD

- Potential requires investment
 - What and long term
 - Current responsibilities for much (not as a selling point)
 - No responsibilities are more
 - No paradigm for changing this
- Implementation is unclear
 - Consuming existing capabilities
 - Helping set direction of company is big issue
- Specific communities have an uphill battle
 - Communities that overlap with Sales, Marketing, R&D
 - Need to recruit them
 - Face to face info, and some proposals
- Many coordination points
 - Global and regional input
 - Delivery, Delivery, R&D
 - Training, Center Development, Innovation
 - Delivery Assurance

Slide 4: Communities: Vision 2008 (12 month vision)
All communities are mature

- No gaps in capabilities/knowledge
- Default use of communities on client site (not as a selling point)
- Objectives are predictive, not reactive
- Help set company direction

Community leads are external facing

- Articles, books, conferences, white papers
- Known in industry

Community promotes & supports experts

- Create a powerful pool of experts
 - More ready more viral & wider impacts
 - Pool also has material learning power
 - More authors, broader power to change IT
- Marketing Programs in place
 - New hire as well as project specific

Bubble up what's happening

- Training needs / Staffing needs / More / Iterations

Slide 5: Communities: Key Actions Needed to Achieve 2008 Vision/Close Gaps Actions

- Increase community lead / experts investment in proportion to headcount
- Increase non-callable time for leads / experts necessary to meet long term goals
- Classify how input and leads will work together
 - How will they be involved in leadership discussions
 - How will they / communities help set direction
- Give support for community leads to fill in gaps
 - Special support to communities in need (e.g. Sales, Marketing, R&D)
 - Special support for improving sales to delivery
- Help leads and other experts become external facing
 - Conferences, books, whitepapers, sites and evolution in shared visibility
 - Potentially utilize in advisory work
- Increase external branding
 - Big picture - a ThoughtPedia books offering - to help change IT
 - Identify, evaluate, prioritize, refine material assets
 - Most of experts are individual, not just community leads
 - ThoughtWorks and Community branding, though individual branding is good too
 - Lighten burden where possible (especially areas where we lack skills)
 - Moving capabilities internal and sales material

Slide 6: Communities: Significant Initiatives Needed to Achieve 2008 Vision

- Recruit technical writers
 - Train over capabilities content writing and sales material writing to technical writers
 - Full time position
- Global leads and smaller group of experts full time
 - To support of communities, initiatives, external branding
 - To support of marketing at specific projects by request
- Support Global Leads to become external facing
 - Development, capitalization, etc.
 - Probable writers work with high value consultancy services
- Special non-callable time given to specific community initiatives on TDD basis
- Introduce 'Planner' role for projects
 - PMs, CHs, Testers, Analysts, Architects, etc to visit at project's request for advice / mentoring / direction
 - To support of Delivery Assurance, introduction of consistent practices, knowledge increase & info grants
 - Should have immediate positive impact on delivery risk
- Move to model of 'critical path' staffing versus long term staffing
 - Most of experts in each region across 1 staffed long term as projects
 - They're staffed for 'critical periods' and then move to different projects
 - Free them to act as mentors on multiple projects during critical periods
 - Moves us away from 'serial experts' staffing (only K and Z can do this type of thing)
 - People that can do it aren't being challenged - we just bring on the experts full time - not working

Slide 7: Communities: Vision 2008 (3 month plan)

- Initiatives to Tackle:
 - Drive people more regularly to the ThoughtPedia page
 - Establish a ThoughtWorks presence at all Ruby conferences
 - In progress:
 - Jay Fields & Neal at RailConf Europe
 - Dan Mariano getting permission for 2 small regional conferences
 - CFP for RubyConf created to the ThoughtPedia page
 - Innovation Ruby books written by ThoughtWorkers
 - Jay, Shone Harvey, Martin working on Reflecting in Ruby
 - Neal & Zek working on a DSL in Ruby book
 - Dan contributing to Rail Recipes
- Significant Actions Needed:
 - Add more content from community that doesn't come from email threads
 - Have community lead transcript
 - Add provocative quotes

Slide 8: Communities 12 Month Plan

- Initiatives:**
 - Identify barriers to Enterprise adoption of Ruby
 - Constant presence at Ruby events and conferences
 - Writing
 - Books
 - Blogs
- Actions**
 - Sponsor projects (open source) to solve problems
 - Update CFPs on communities site to encourage ThoughtWorkers to speak
 - Identify potential writers
 - Create a TW-Ruby blog aggregator like Planet-TW?

ppap4tw.key

View Zoom Add Slide Play Keynote Live Table Chart Text Shape Media Comment Mask Alpha Collaborate Format Animate Document

Transitions

No Transition Effect

Add an Effect

Start Transition Delay
On Click 0.50 s

Build Order

Ant Fonts

THOUGHTWORKS SUGGESTED REMEDIATION APPROACH

DISCOVERY Project Inception (1 - 2 Weeks)

DELIVERY Phase 1 (2 Months)

DISCOVERY Phase 2 Inception (1 Week)

DELIVERY Phase 2 (2 months)

Touchpoints, Hypotheses, Issues, Sources, Gaps

Synthesis of Key Ideas, Goals, Requirements, Scope

Prioritized Backlog

Design

Build

Refine

Test

Evolve

INCREMENTAL DELIVERY & MULTIPLE RELEASES

Continue Discovery / Delivery Cadence Through September

KEY ACTIVITIES AND OUTCOMES

- Establish a shared vision and strategy for delivery execution
- Facilitated workshops and sessions to quickly onboard the team and help prioritize areas of focus, draw boundaries, confirm touch points, identify operational and business issues
- Confirm goals and priority of Phase 1
- Flush out lower level requirements to help produce a realistic delivery plan for the overall and Phase 1 roadmap
- Delivery working software on an continuous basis leveraging the latest Agile engineering practices that maximize efficiency, speed, and quality of code being produced.
- Deliver working software in thin slices to allow for end user testing and business value to be delivered on a continual basis
- Continue to enhance TR people, process, and tech to deliver faster.
- Using Phase 1 learnings, refine overall delivery execution and strategy if needed.
- Facilitated workshops and sessions to quickly the team and help prioritize areas of focus, draw boundaries, confirm touch points, identify operational and business issues
- Confirm goals and priority of Phase 2
- Flush out lower level requirements to help produce a realistic delivery plan for the overall and Phase 2 roadmap
- Delivery working software on an continuous basis leveraging the latest Agile engineering practices that maximize efficiency, speed, and quality of code being produced.
- Deliver working software in thin slices to allow for end user testing and business value to be delivered on a continual basis
- Continue to enhance TR people, process, and tech to deliver faster.
- Continue process for subsequent phases, as appropriate

22

Design at 50% to prevent Ant Fonts.

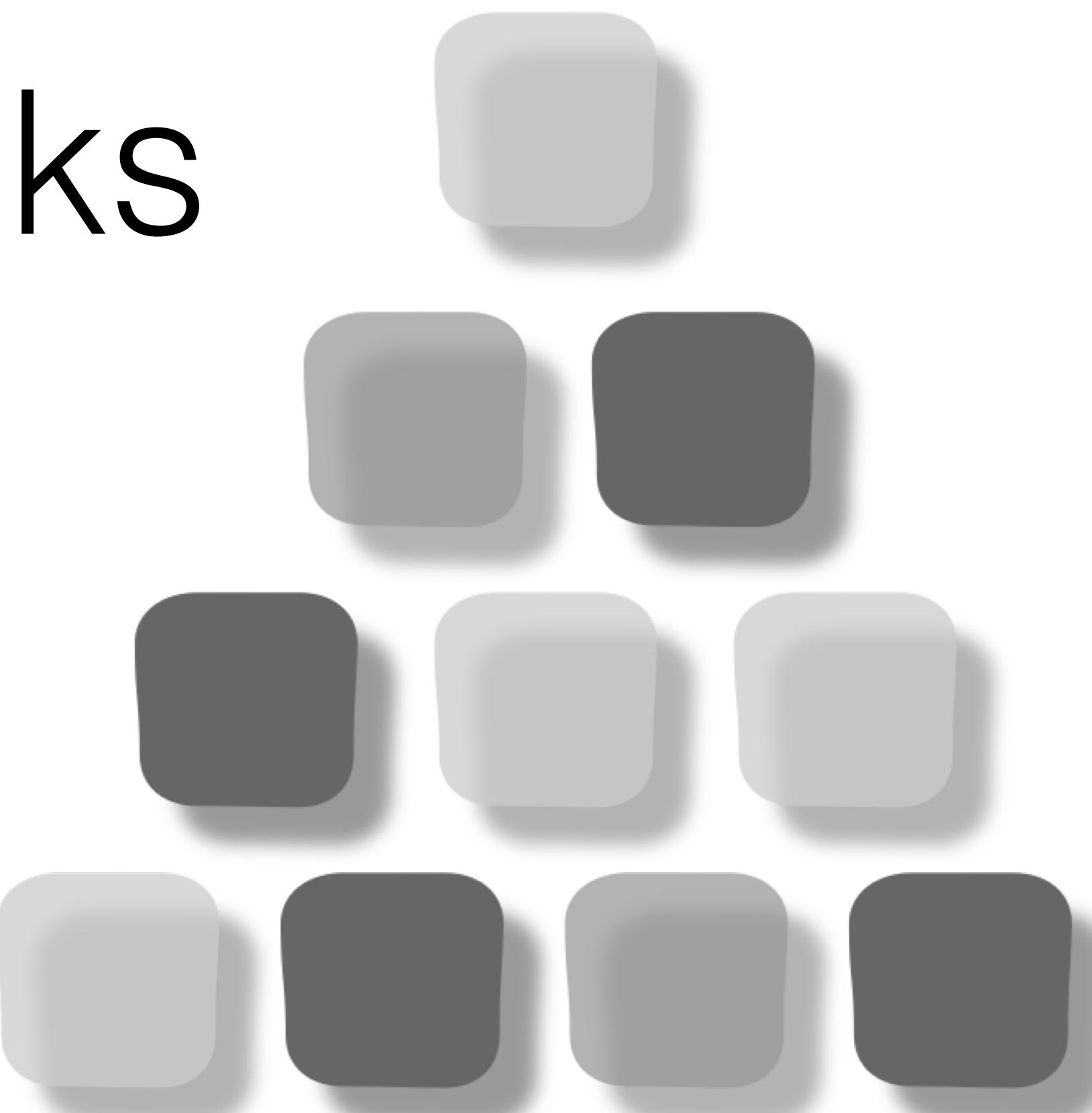
Slides are FREE !!!!!

Spread out your story using multiple slides

Use consistent animations and transition to
stitch together your narrative arc.

Use unique transitions and/or Intermezzi
slides to indicate presentation structure

Building Blocks



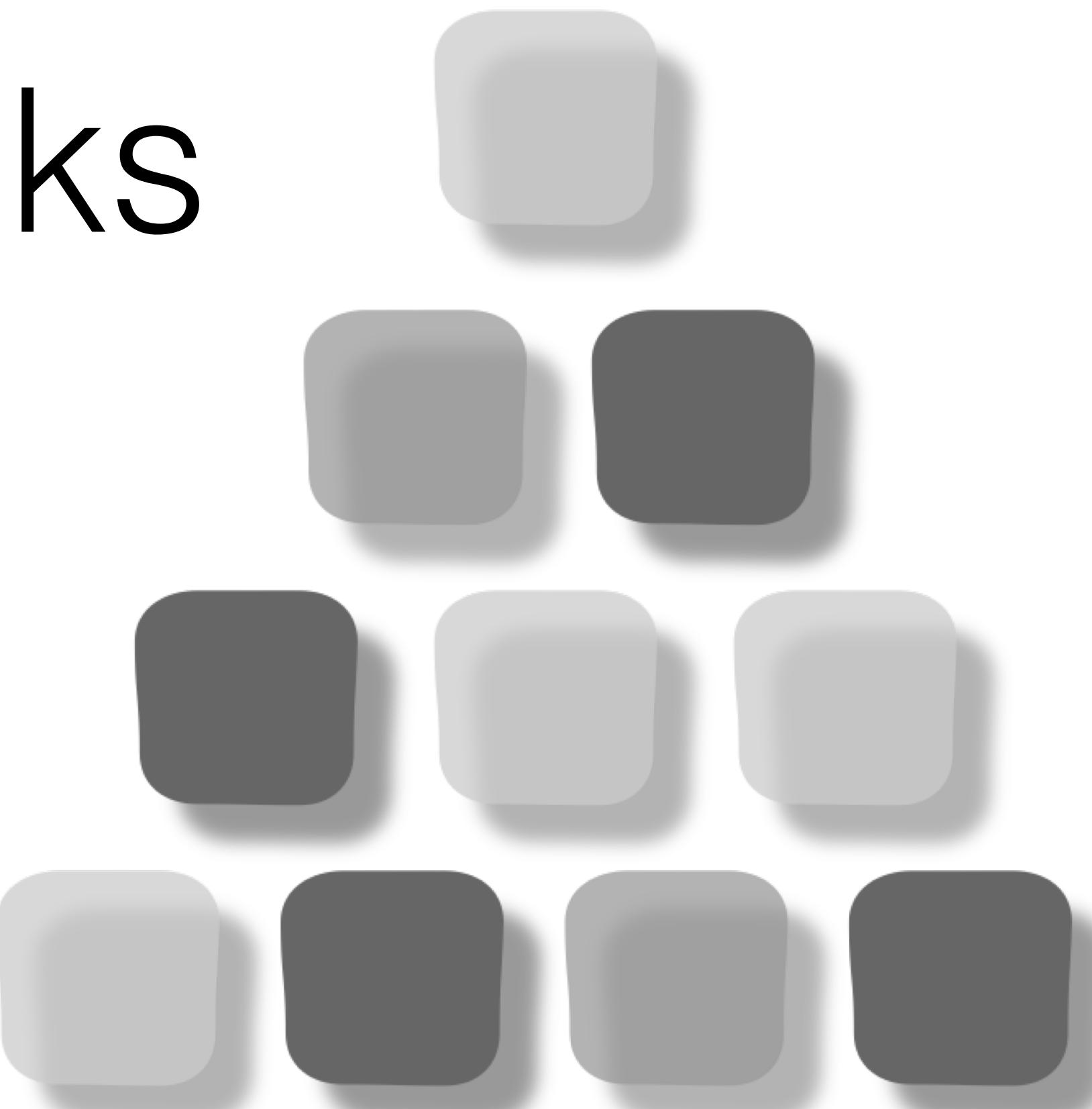
Building Blocks

Backtracking

Remember to remove animations
on backtracked slide.

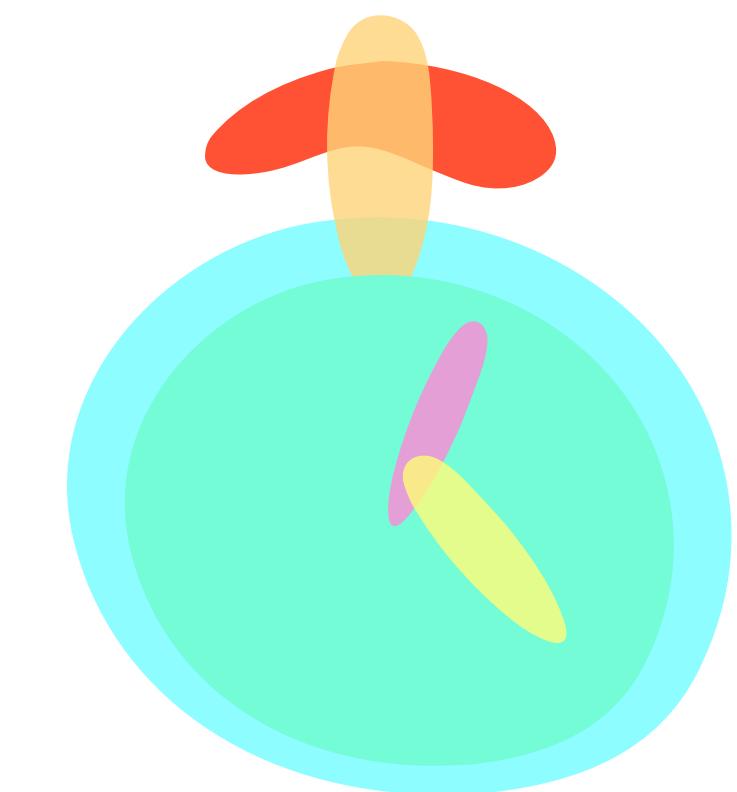
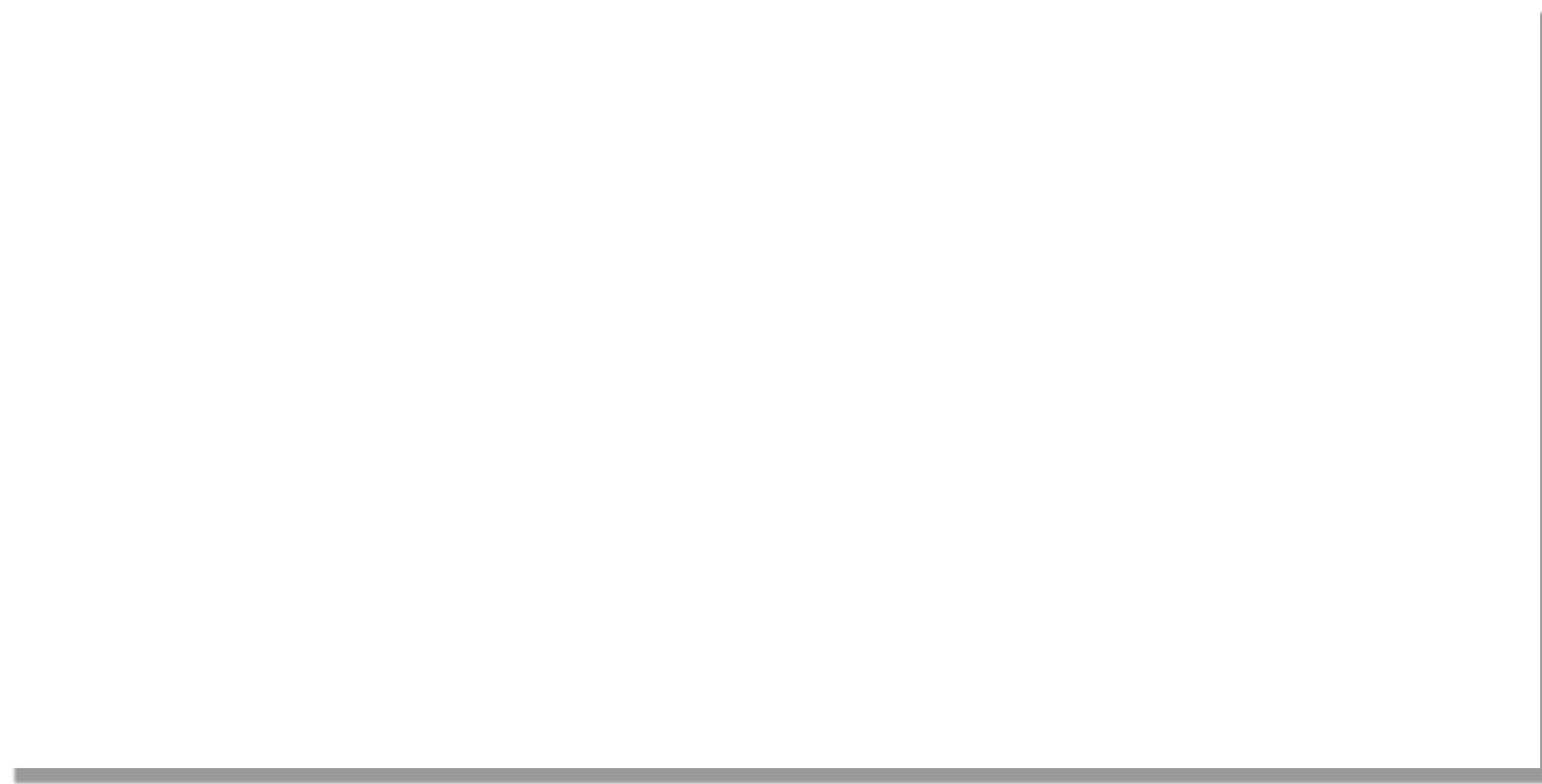


Building Blocks

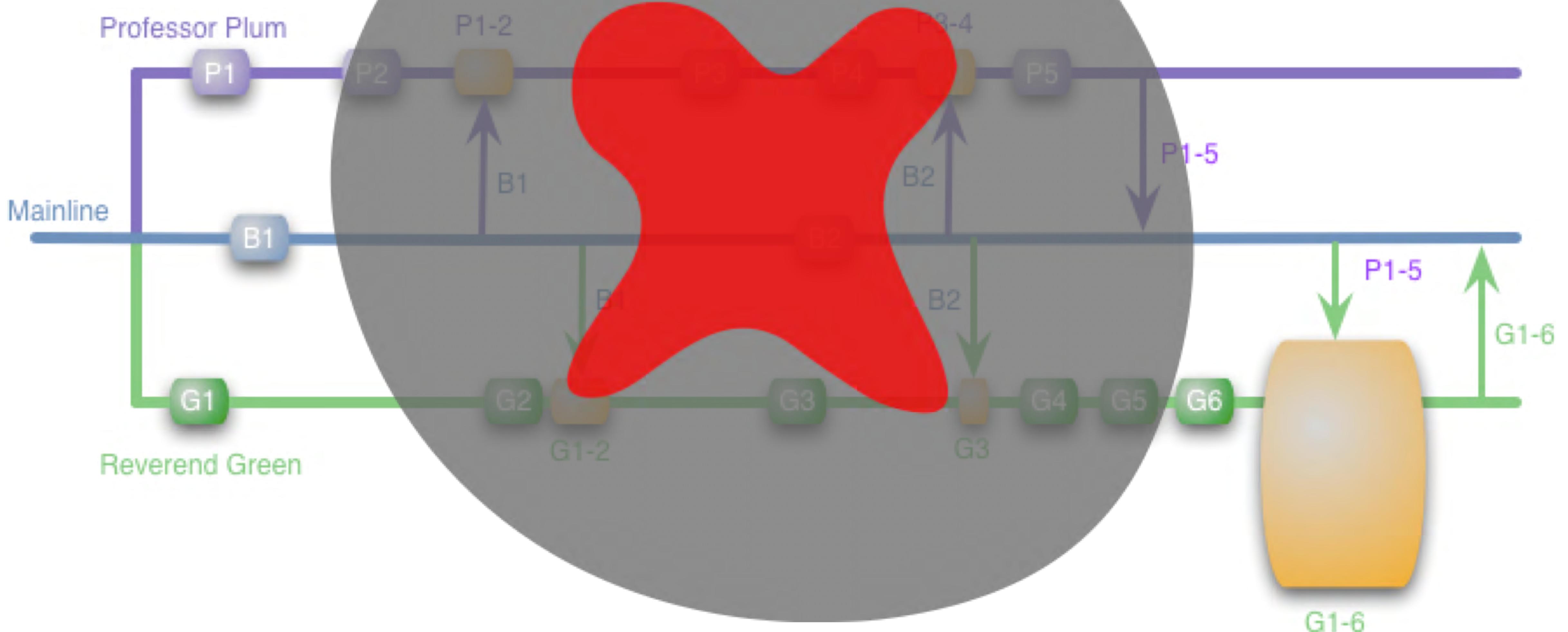


Magic borderless white box

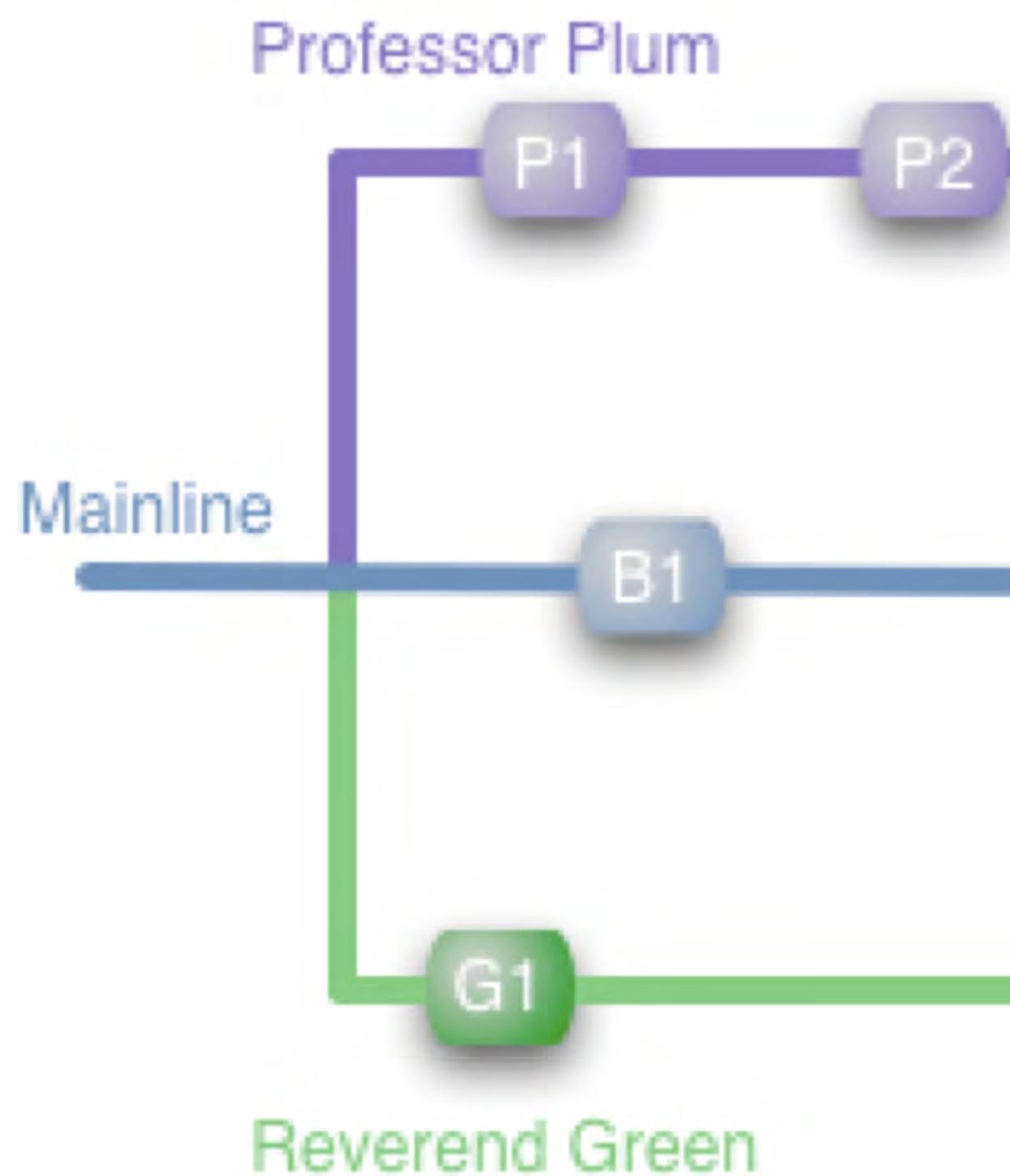
Magic borderless white box



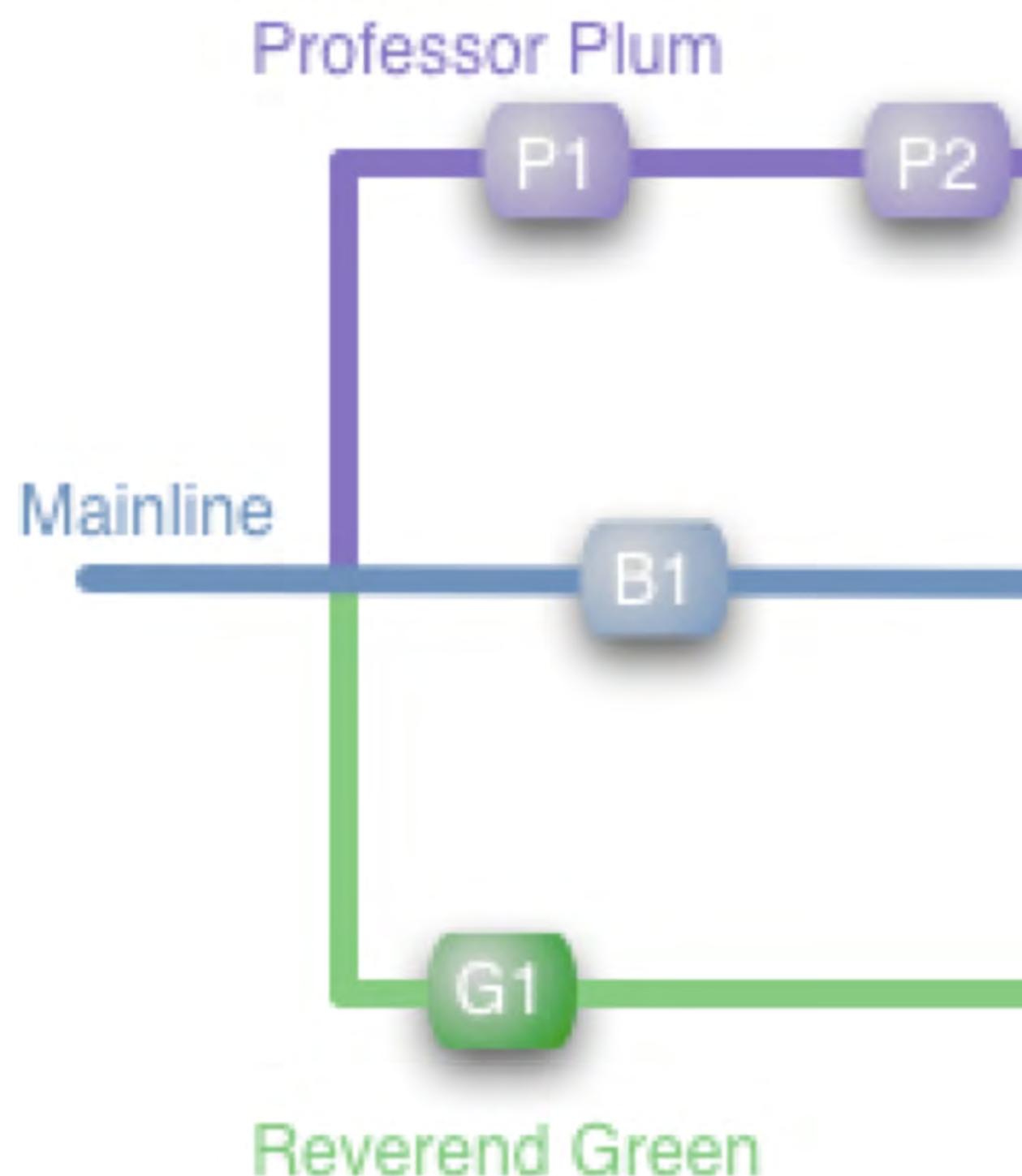
Borderless white box



Borderless white box



Borderless white box



Expansion Joints

Building a presentation for one (and only one) length is a missed opportunity.

Expansion Joints

Crafting short-, medium-, and full-length versions of your talk provides additional opportunities for delivery and simplifies adapting to shorter windows if the promised time slot is cut short.

Unifying Visual Theme

Use a common, repeating visual element to tie together the disparate parts of your presentation.

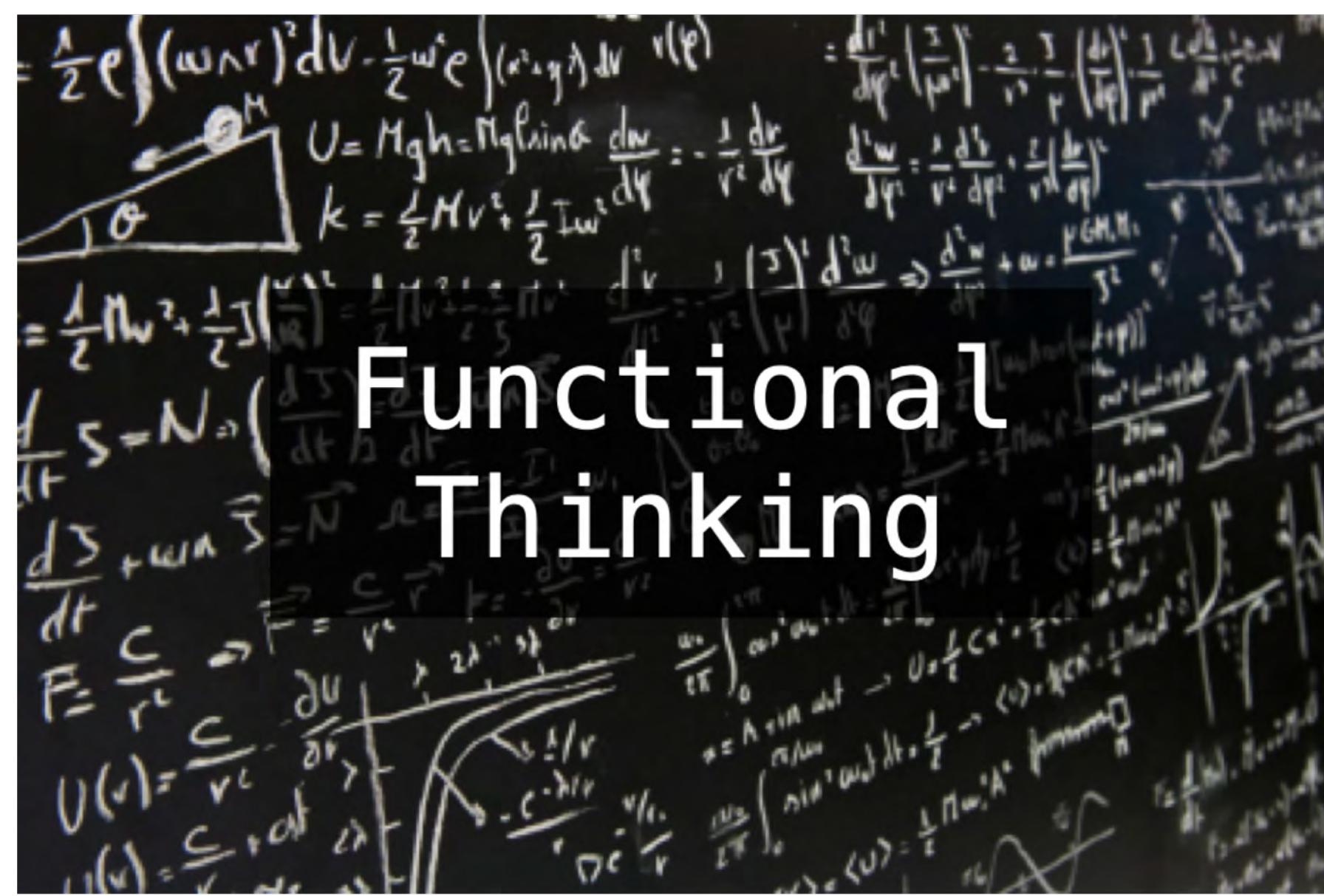
Unifying Visual Themes



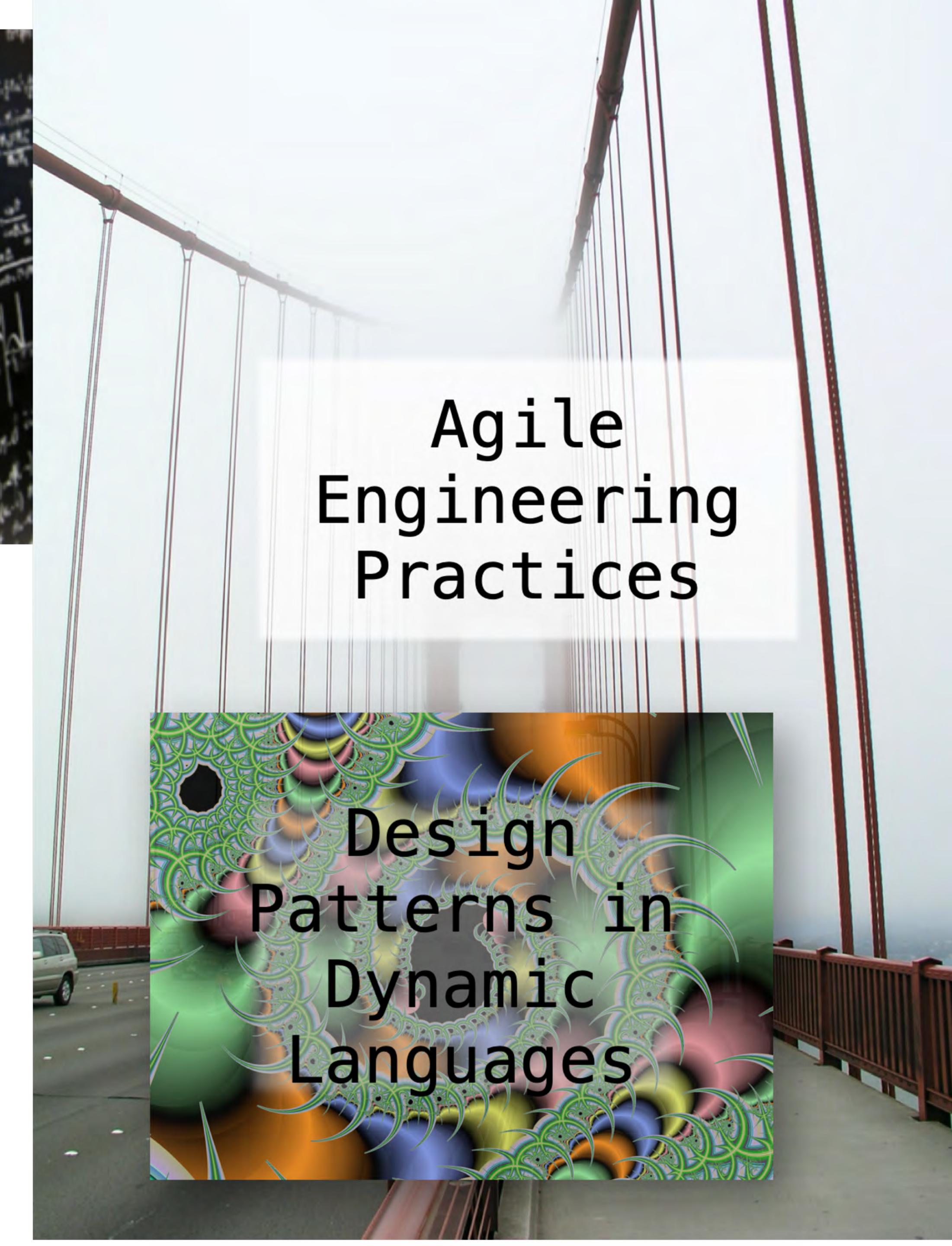
Build







Functional Thinking



Bullet-riddled Corpse

Outlines should never have a single point at an indent level; don't create bullet points that have only one sub-bullet. Bullets in presentations mimic outlines and it "looks" grammatically incorrect to have orphan bullets.

Why So Many Bullets?

- Both presenters and audience expect it.
- Title + Bullets is often the default template.
- Inexperienced speaker's rely on bullets as speaker notes
- Easy to bang together in a conference room while > 4 people are talking

The Cool Thing about Bullets

When a Slide Full of Text Appears

- Everyone in the audience
- Reads the entire thing right away
- You can't help it
- Now, the presenter spends the next five minutes
- slowly reading what you've already read

Slides are FREE !!!!!

Spread out your story using multiple slides

Use consistent animations and transition to
stitch together your narrative arc.

Use unique transitions and/or Intermezzi
slides to indicate presentation structure

Slides are FREE !!!!!

50% transparent background to make overlay more readable

Spread out your story using multiple slides

Use consistent animations and transition to stitch together your narrative arc.

Use unique transitions and/or Intermezzi slides to indicate presentation structure

Backtracking

Floodmark

Floodmarks are marketing and branding headers, footers, and watermarks that invade the content area of the slide.

floodmarks

Floodmark

Your audience won't forget who you work for
or the name of the conference during the
course of your talk.

Floodmark

Egregious instances of this antipattern lead to several other antipatterns by occupying valuable real estate.

Why you shouldn't use the company floodmarks...

- Limits the canvas size for useful content
- Prevents animation/transition “hiding” of slide movement for narrative arc
- Teaches the viewer that your company name should be ignored

Put them on the 1st and last slide, leave
everything else blank

Charred Trail

- The slide shows out-of-date content by graying it out as the presenter progresses through the slide.
- This prevents the audience from reading ahead and results in a more printable artifact.

Keynote versus Powerpoint

Invisibility 1

This pattern uses invisible elements that don't appear on printed versions of the slides but are revealed throughout your talk.

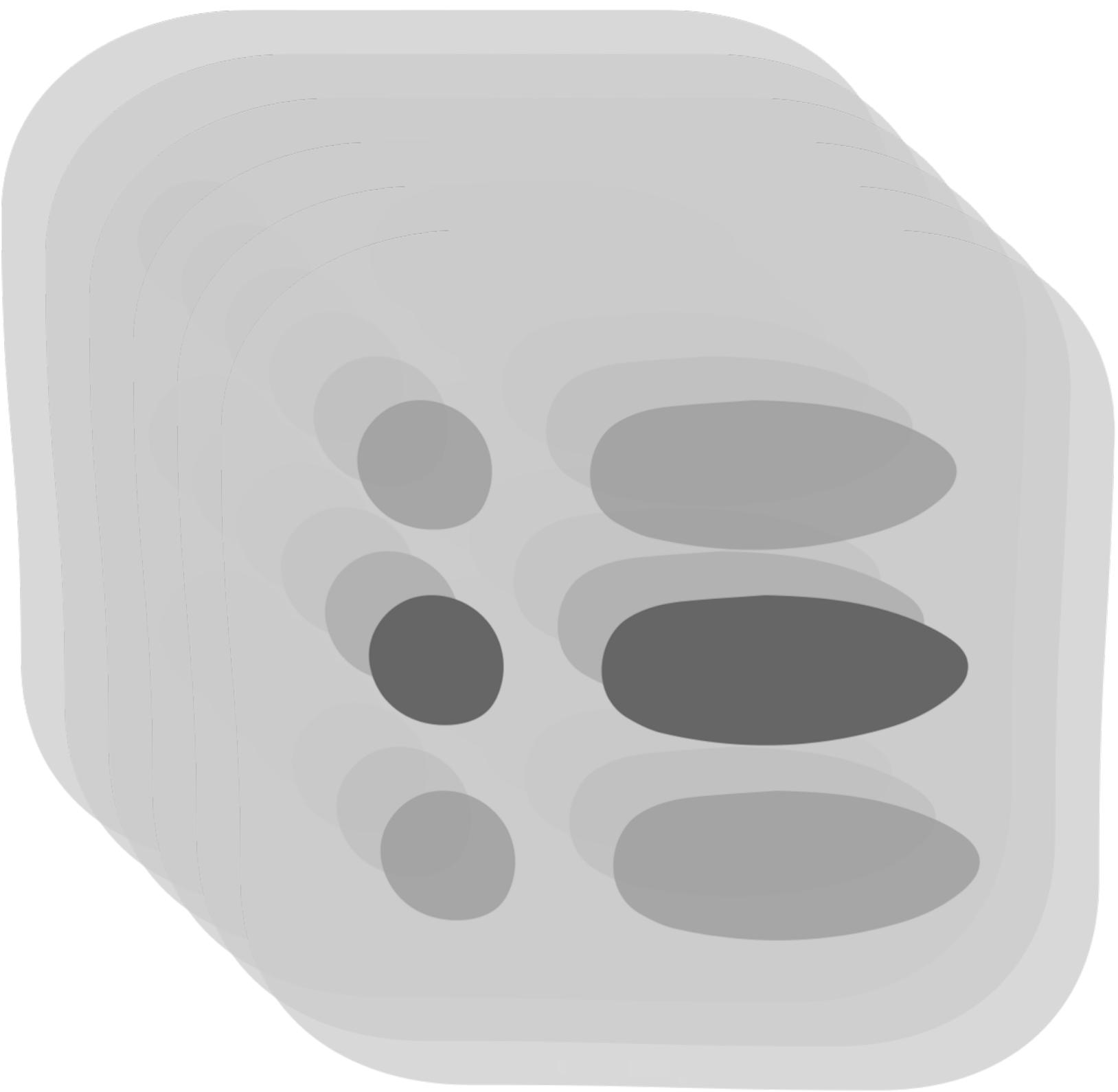
Invisibility¹

This preserves a sense of surprise when you
are forced to provide handouts
(Slideuments?) in advance of your talk.

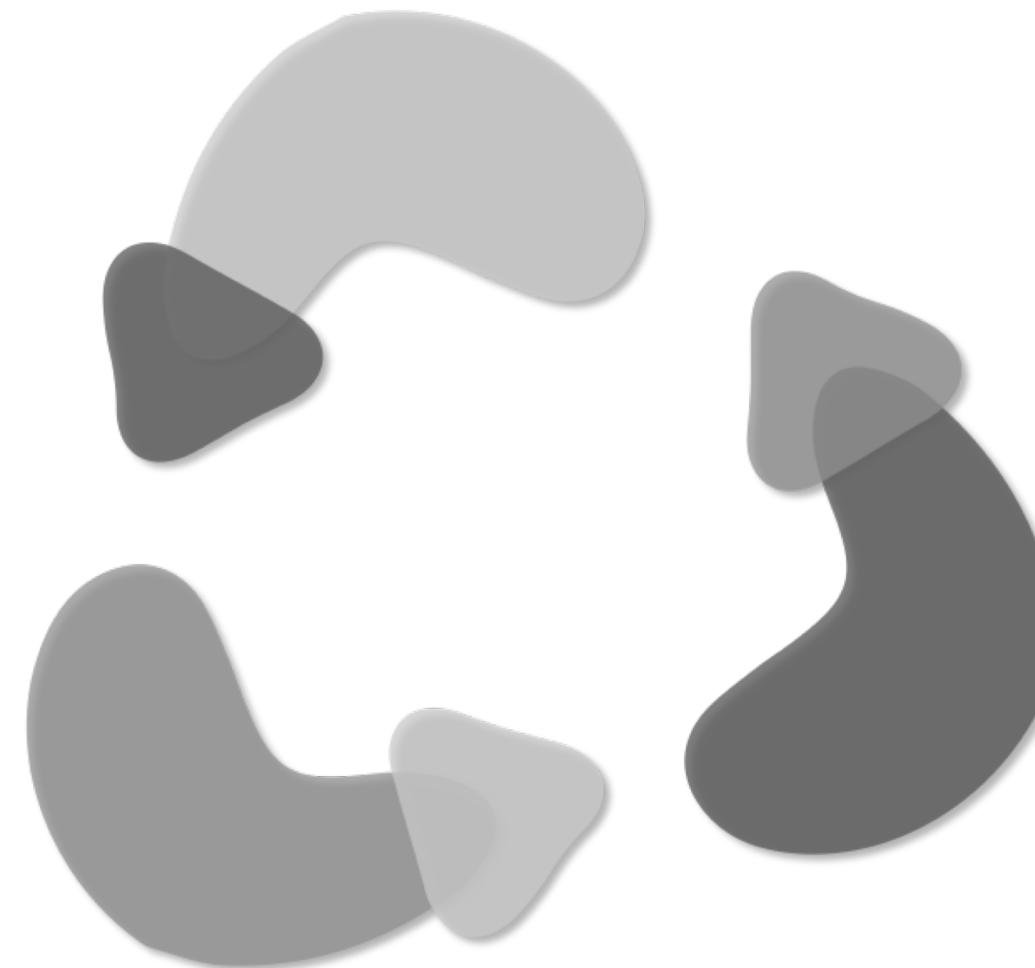
Invisibility²

Use blank sides to refocus attention on the speaker.

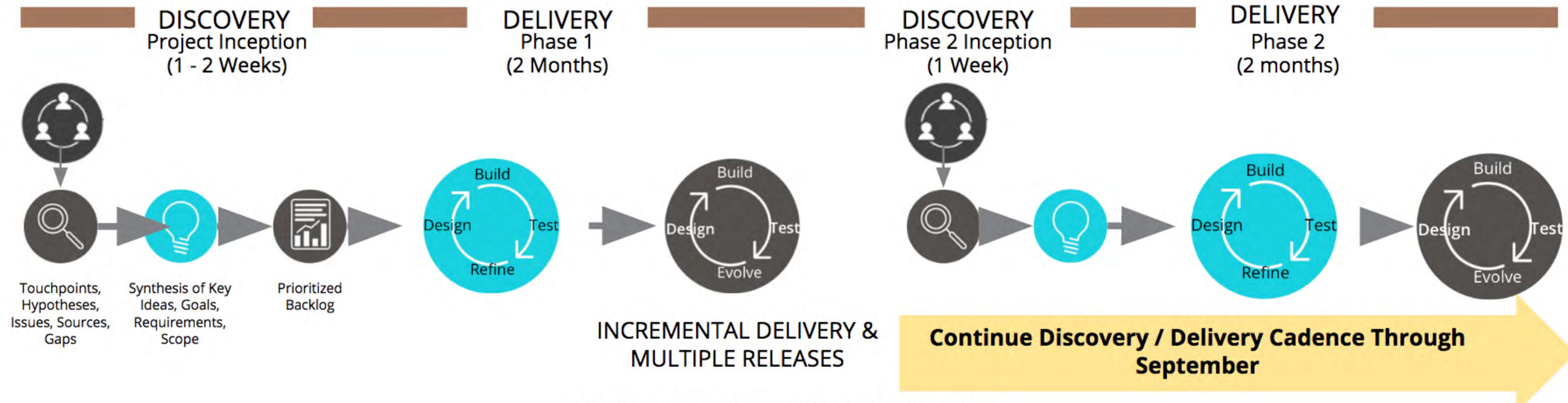
Invisibility²



Repurposing assets



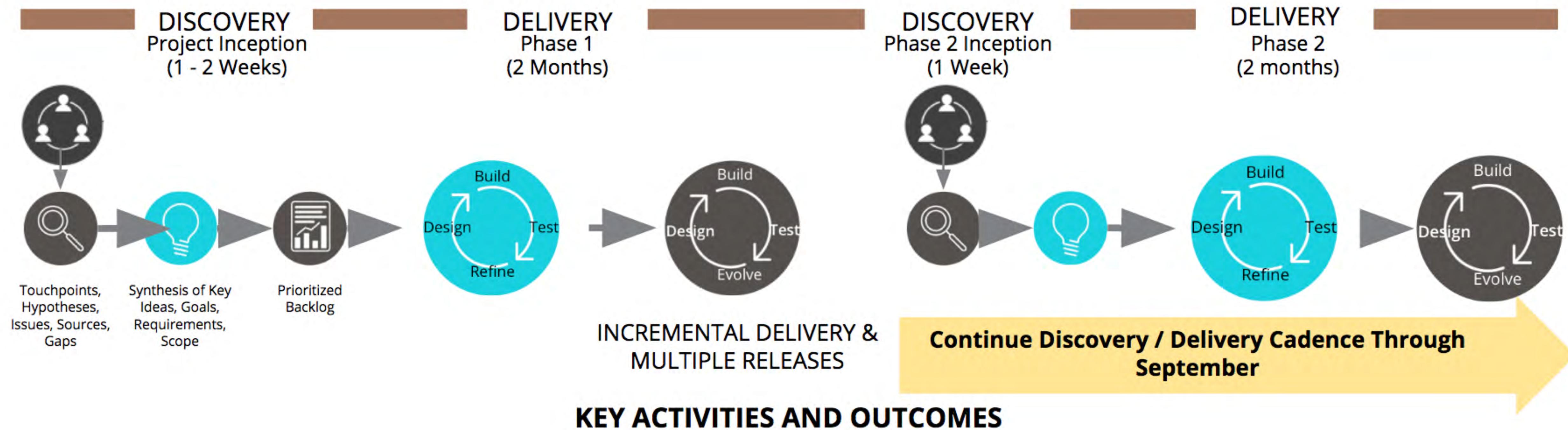
THOUGHTWORKS SUGGESTED REMEDIATION APPROACH



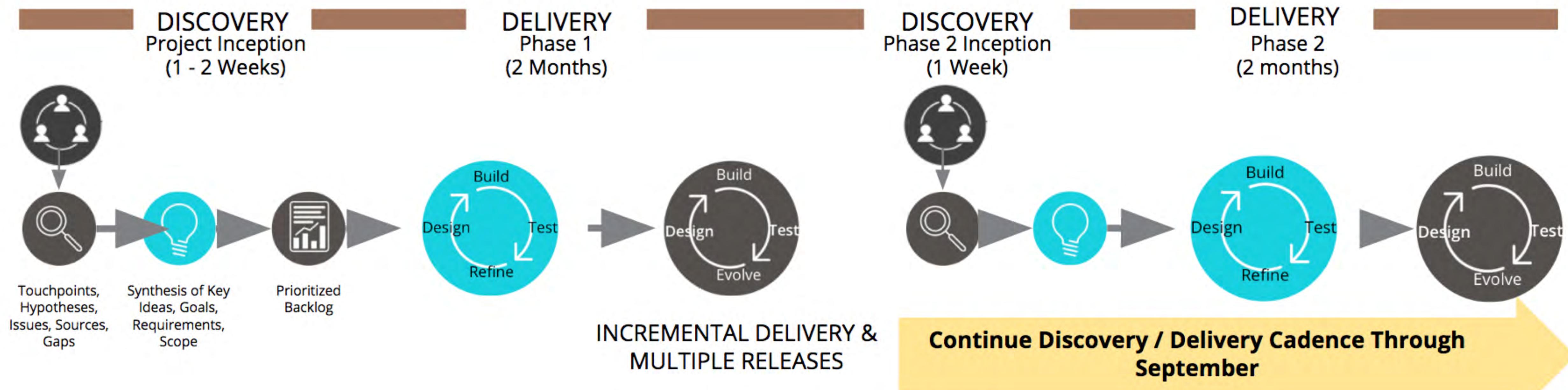
KEY ACTIVITIES AND OUTCOMES

- Establish a shared vision and strategy for delivery execution
- Facilitated workshops and sessions to quickly onboard the team and help prioritize areas of focus, draw boundaries, confirm touch points, identify operational and business issues
- Confirm goals and priority of Phase 1
- Flush out lower level requirements to help produce a realistic delivery plan for the overall and Phase 1 roadmap
- Delivery working software on an continuous basis leveraging the latest Agile engineering practices that maximize efficiency, speed, and quality of code being produced..
- Deliver working software in thin slices to allow for end user testing and business value to be delivered on a continual basis
- Continue to enhance TR people, process, and tech to deliver faster.
- Using Phase 1 learnings, refine overall delivery execution and strategy if needed.
- Facilitated workshops and sessions to quickly the team and help prioritize areas of focus, draw boundaries, confirm touch points, identify operational and business issues
- Confirm goals and priority of Phase 2
- Flush out lower level requirements to help produce a realistic delivery plan for the overall and Phase 2 roadmap
- Delivery working software on an continuous basis leveraging the latest Agile engineering practices that maximize efficiency, speed, and quality of code being produced.,
- Deliver working software in thin slices to allow for end user testing and business value to be delivered on a continual basis
- Continue to enhance TR people, process, and tech to deliver faster.
- Continue process for subsequent phases, as appropriate

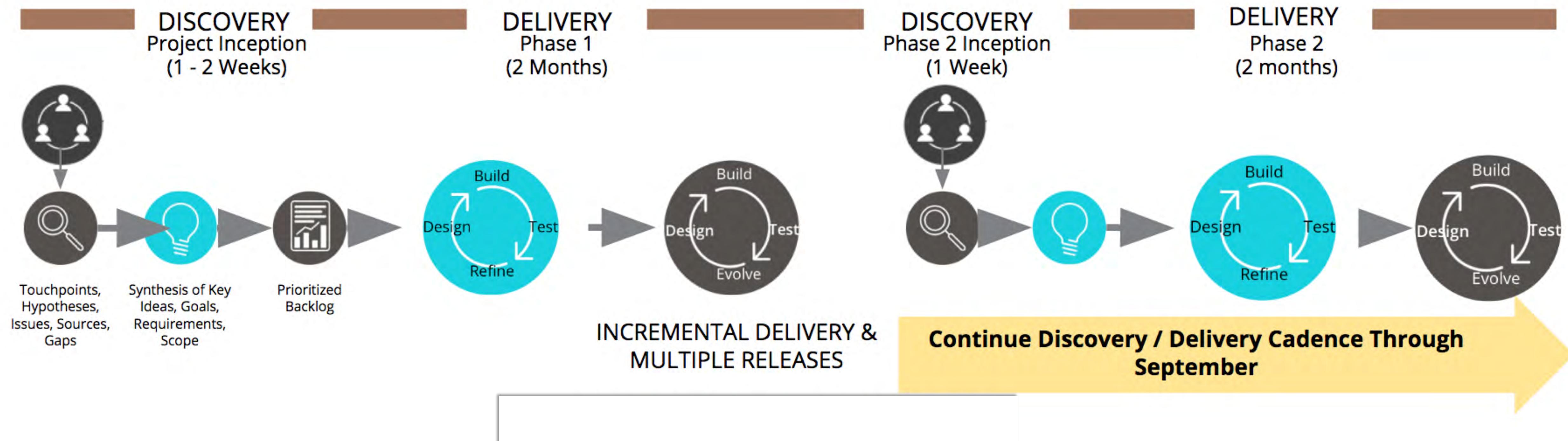
THOUGHTWORKS SUGGESTED REMEDIATION APPROACH



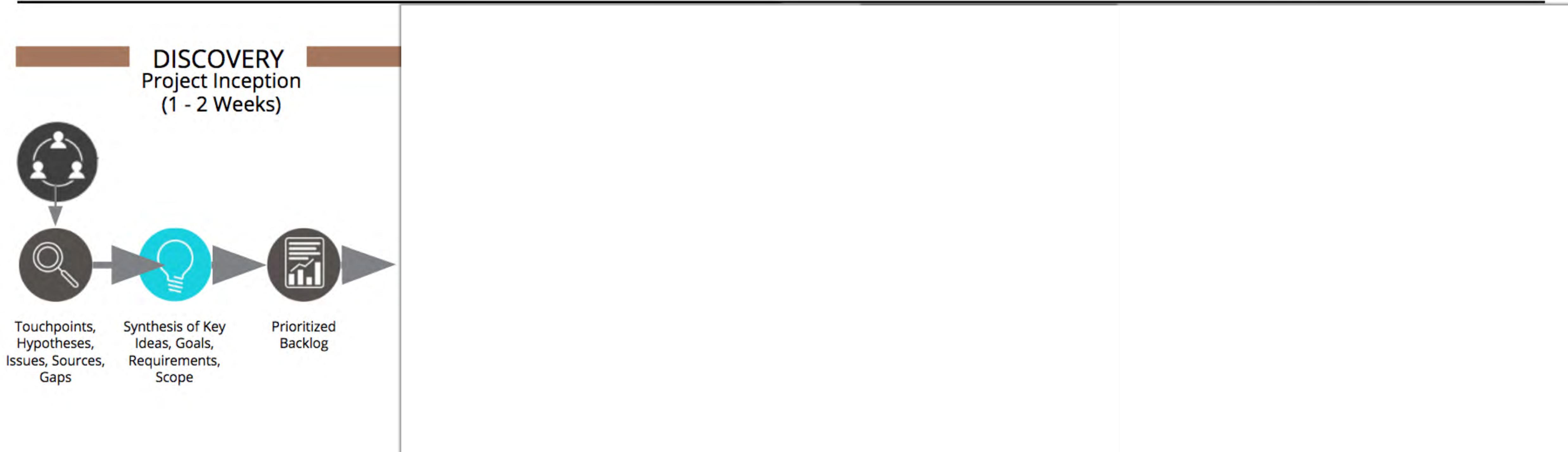
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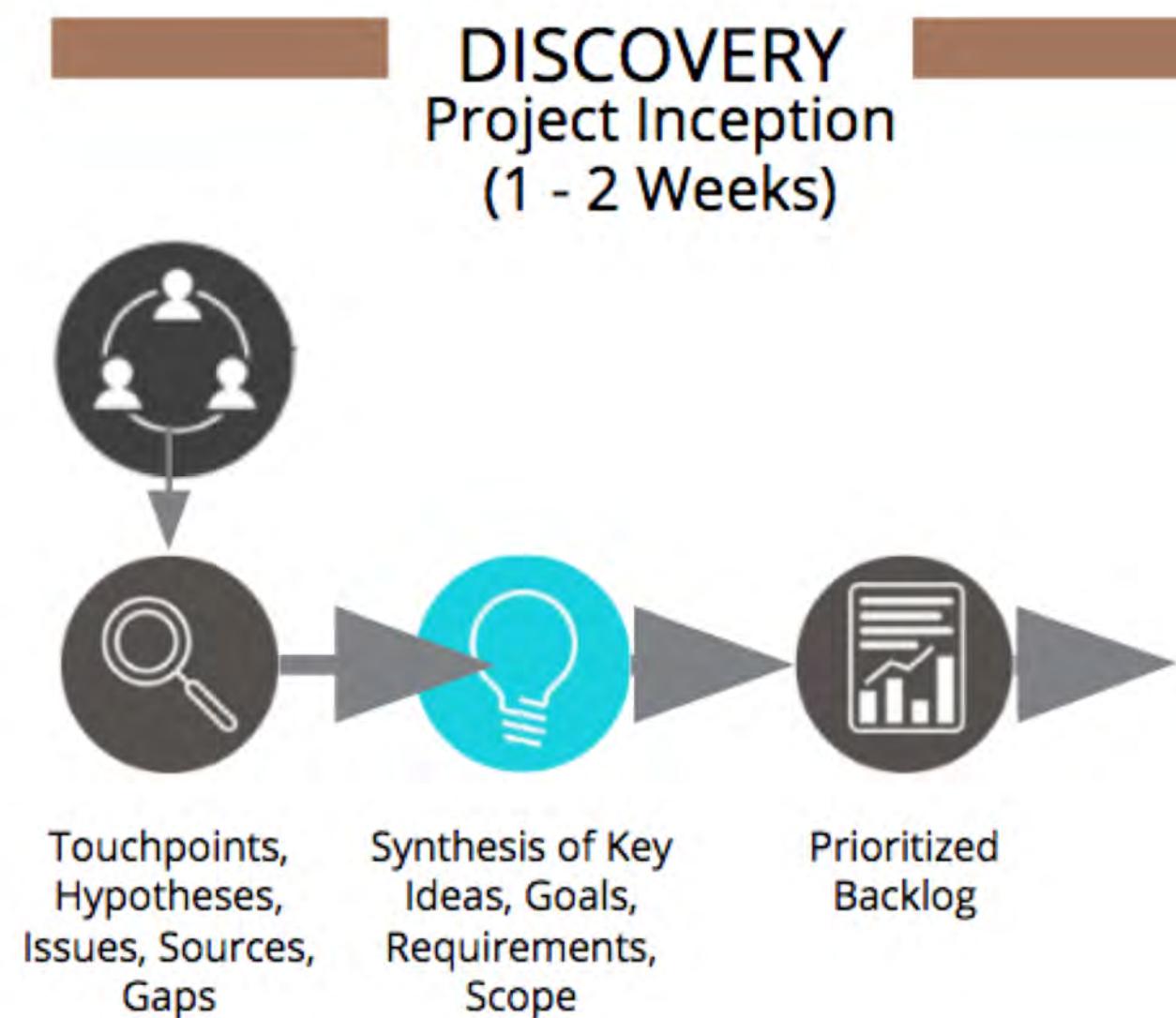
THOUGHTWORKS SUGGESTED REMEDIATION APPROACH



THOUGHTWORKS SUGGESTED REMEDIATION APPROACH



THOUGHTWORKS SUGGESTED REMEDIATION APPROACH



The screenshot shows the homepage of the FarmacyFood website. At the top, there is a navigation bar with the FarmacyFood logo, links for "ABOUT US" and "INTERESTED?", a "Sign Up" button, and a shopping cart icon showing "0". Below the navigation is a large, appetizing photograph of a bowl of soup with shrimp, garnished with cilantro and green onions. Overlaid on this image is the quote "Let Food be Thy Medicine" in white, bold, sans-serif font, with a small "LEARN MORE >" button below it. The main body of the page has a green background. On the left, there are two black meal prep containers filled with pasta and vegetables. In the center, the FarmacyFood logo is displayed above the tagline "Healthy, locally sourced meals for delivery or pick-up.". A "GET STARTED" button is located below the tagline. On the right, there is a vertical promotional graphic for FarmacyFood featuring images of food and text about their mission and impact.

farmacyfood.com

ABOUT US INTERESTED? Sign Up 0

Let Food be Thy Medicine

LEARN MORE >

**farmacy
food**

Healthy, locally sourced meals for delivery or pick-up.

GET STARTED

Salads. Grain Bowls. Hot Plates.

OUR FOOD
Our meals are chef-prepared, made from scratch daily, and inspired by the communities we serve.

OUR MISSION
Our mission is to transform the food system by bringing healthy, affordable food into every community.

YOUR IMPACT
Every meal you purchase helps support our mission to bring healthy food to underserved communities across the country.

The Solutions

Honorable Mention—Jiakaturi

3rd Place—The Jedis

2nd Place—Miyagi's Little Forests

1st Place—Archcolider



Farmacy Food Architecture

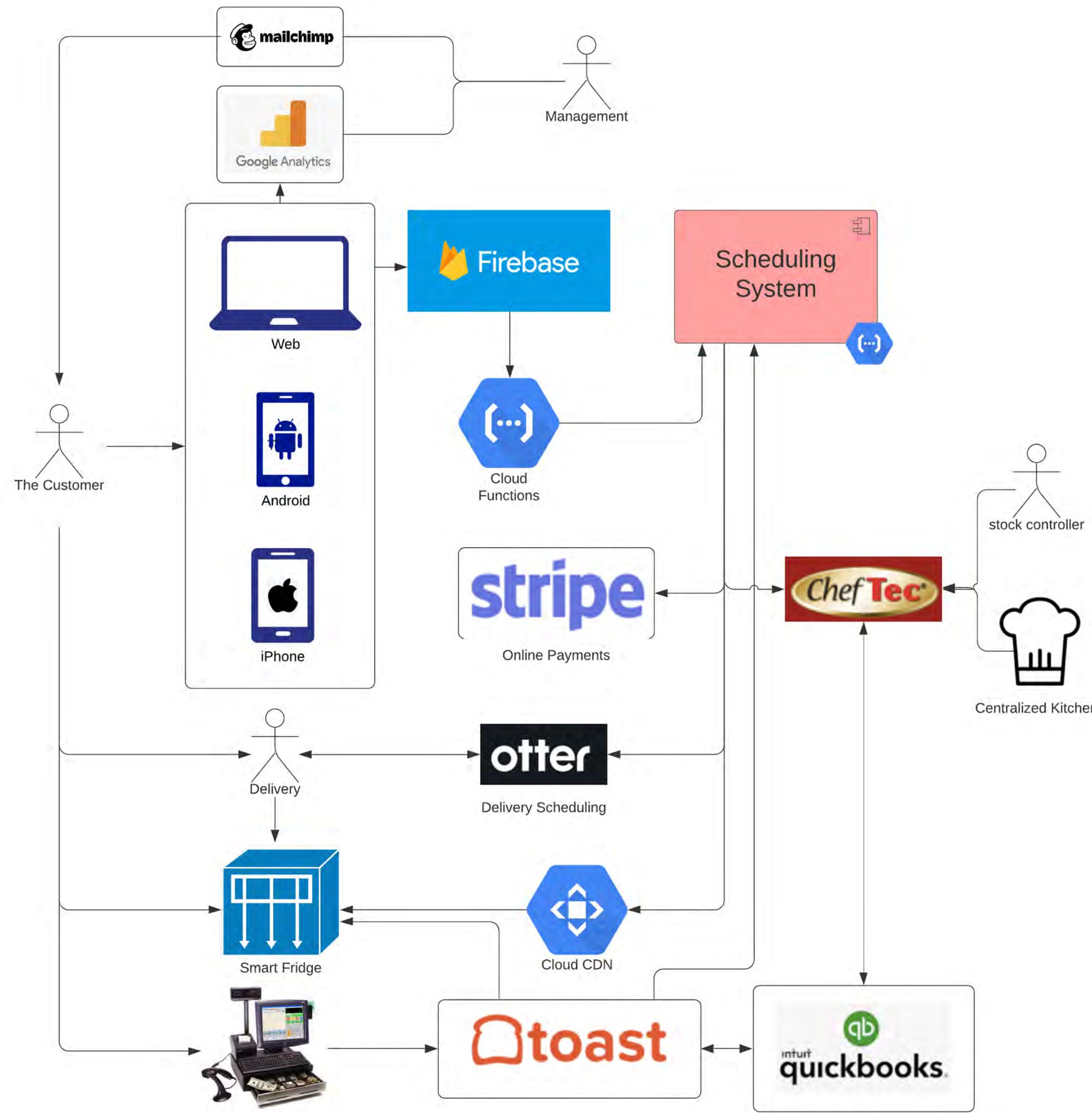
by

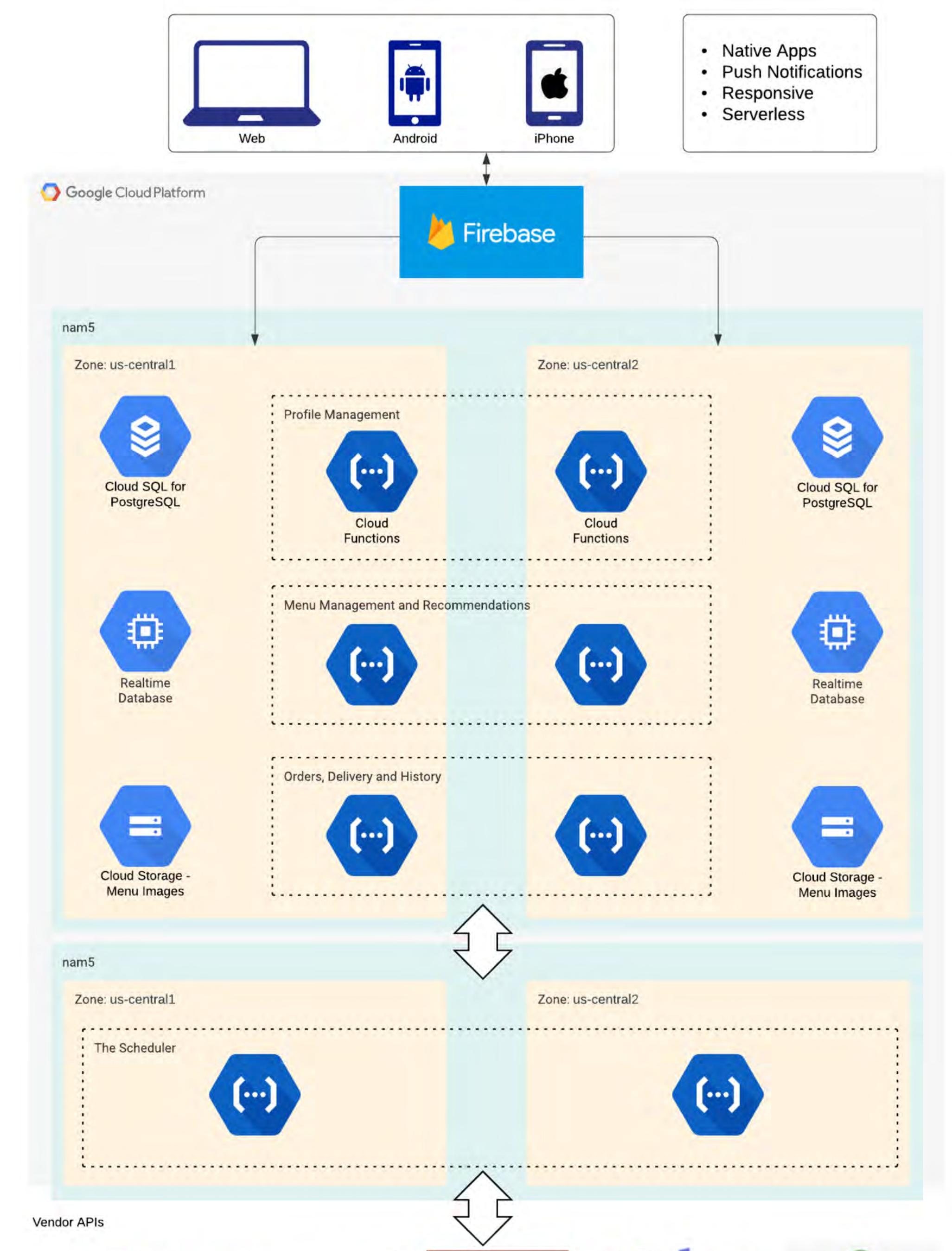
 **JiaKoturi**

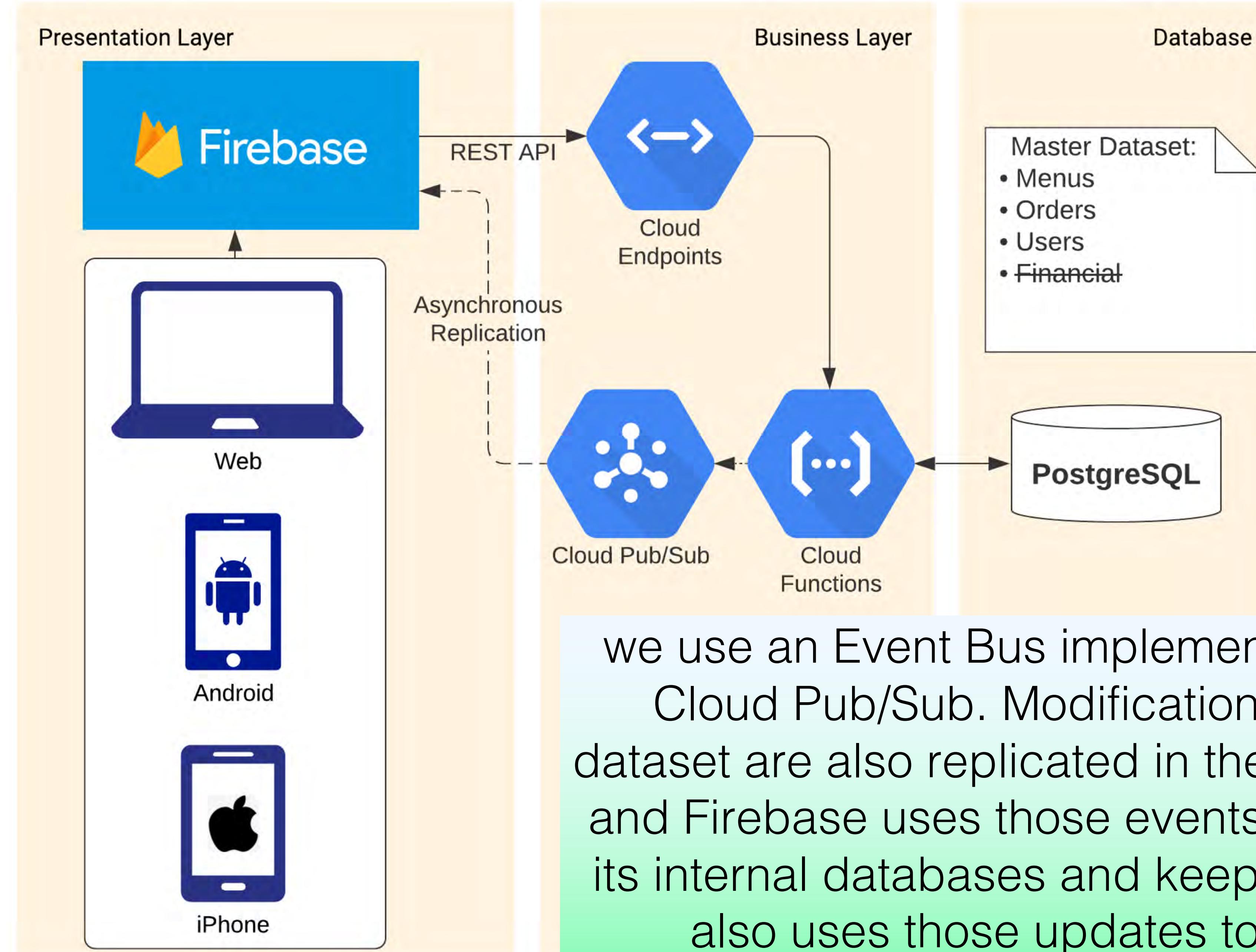
The logo for JiaKoturi consists of a stylized, circular icon followed by the brand name in a bold, lowercase sans-serif font.

<https://github.com/lookfwd/archkata>

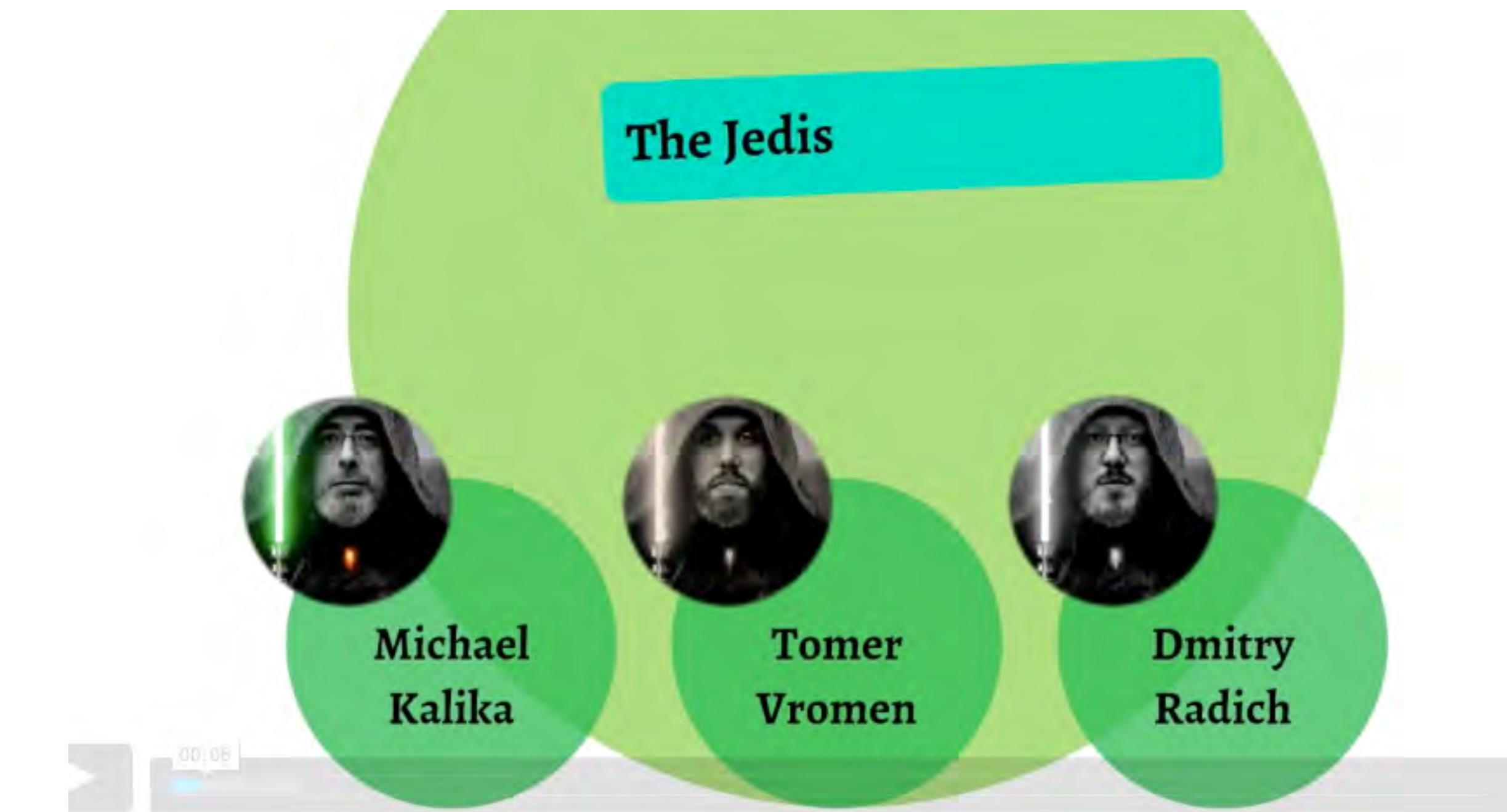
Serverless!





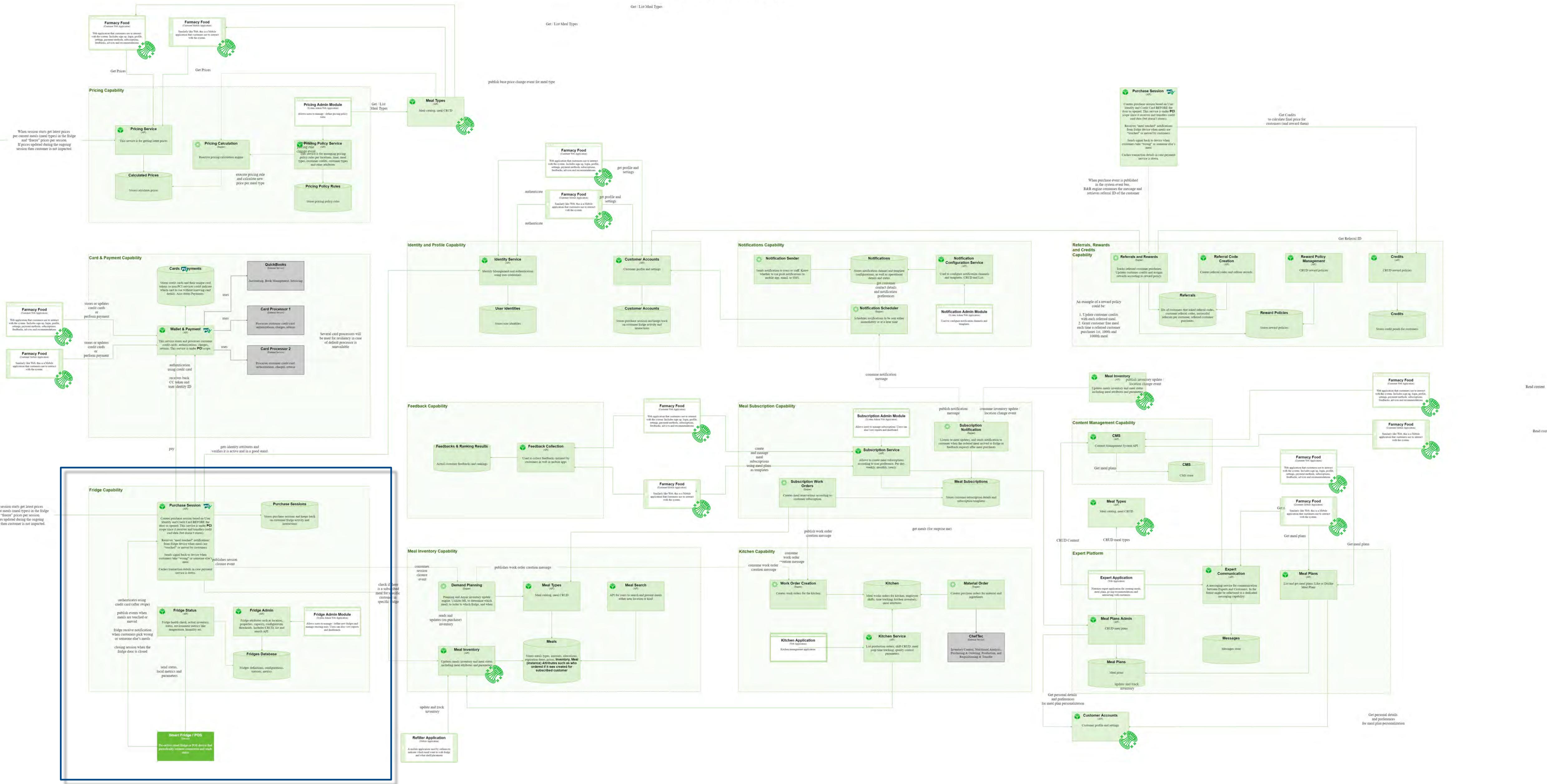


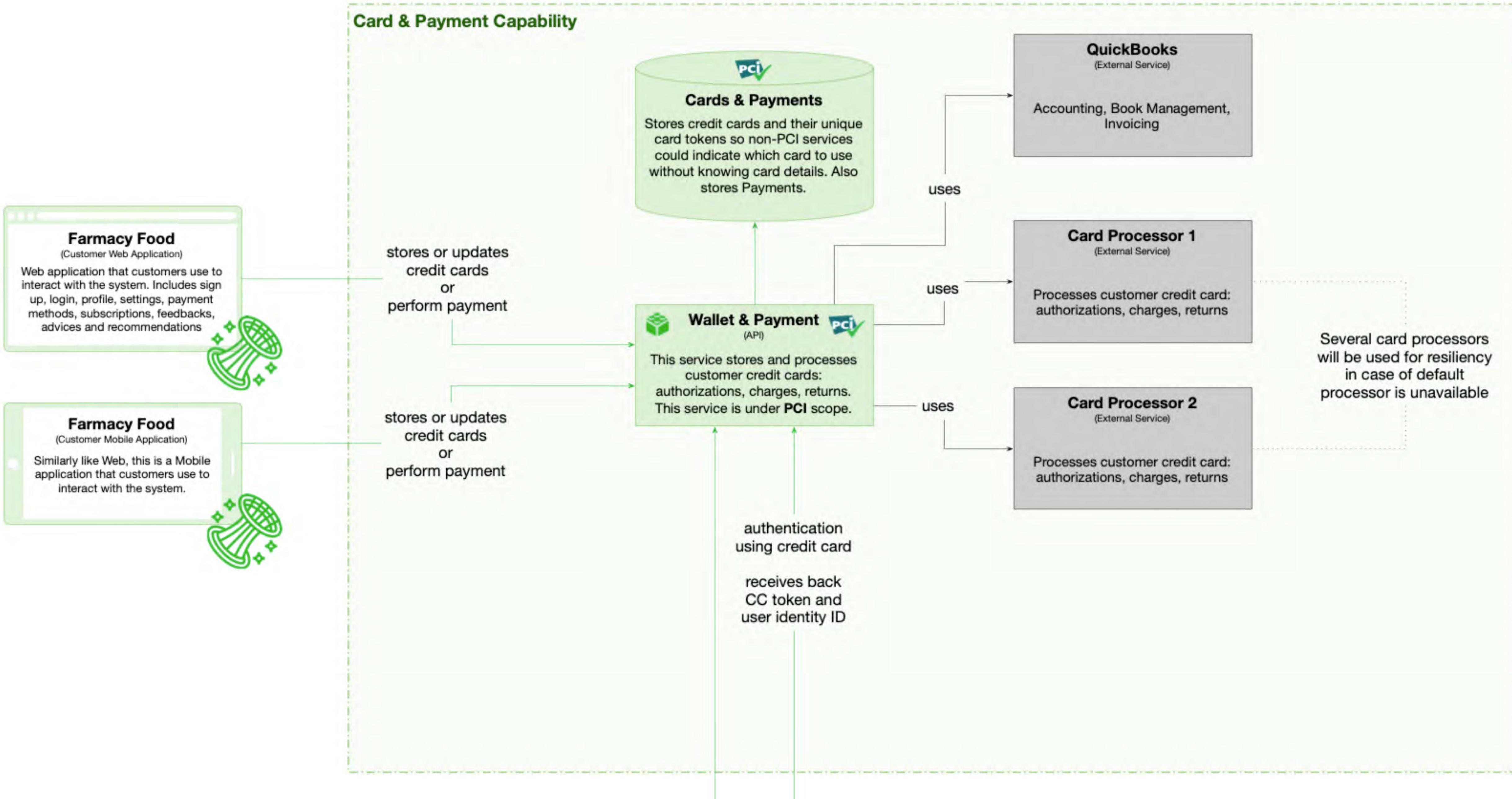
we use an Event Bus implemented using Cloud Pub/Sub. Modifications to the dataset are also replicated in the Event Bus and Firebase uses those events to update its internal databases and keep in sync. It also uses those updates to push notifications on the Web/App.



https://github.com/TheJedis2020/arch_katas_2020

System Component Diagram





evolutionary architecture

The Architecture

- General Architecture - the general architectural idea.

Stage 1 Capabilities

- Fridge Capability
- Card and Payment
- Identity and Profile
- Kitchen Capability
- Meal Inventory
- Pricing

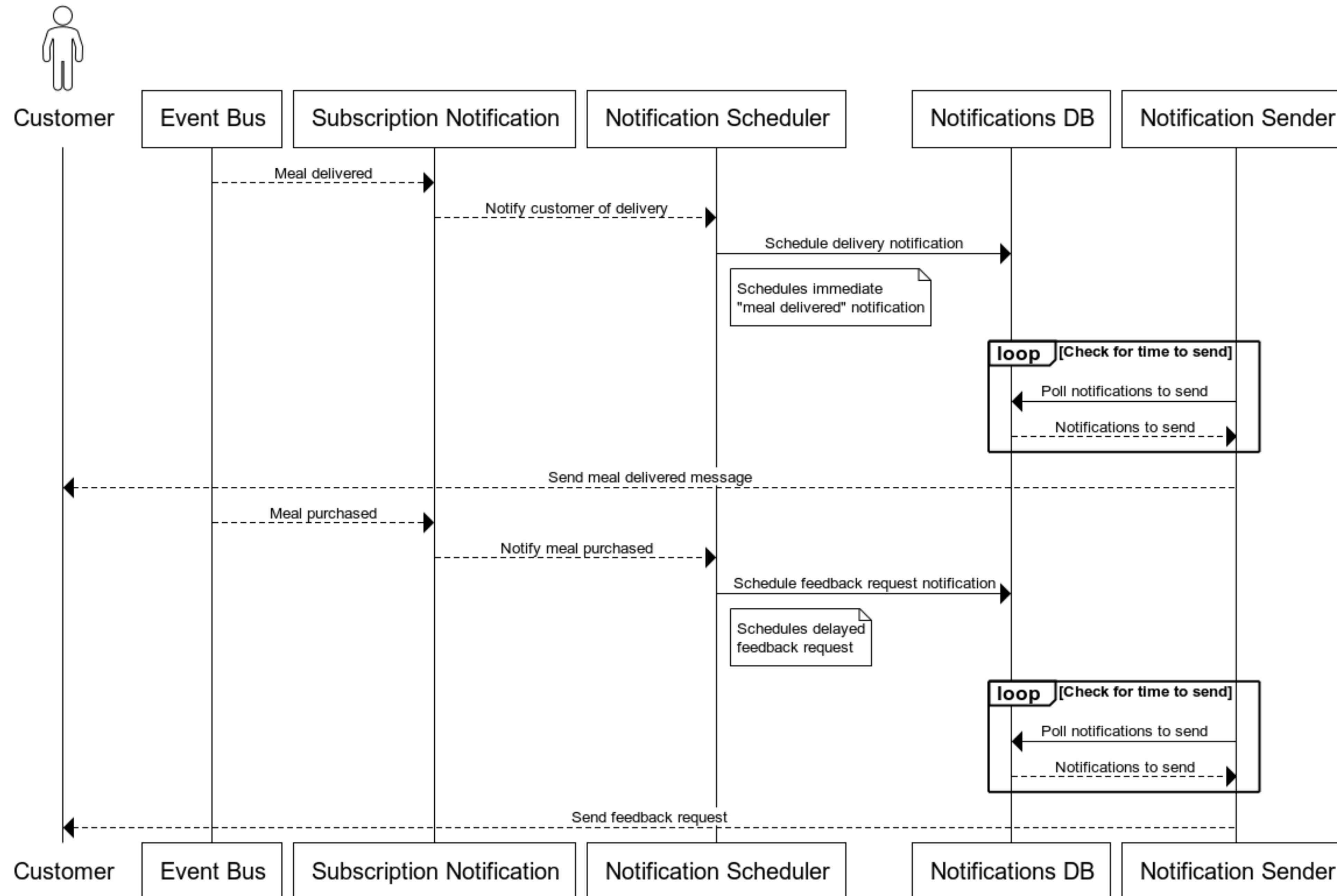
Stage 2 Capabilities

- Customer Subscriptions
- Notifications
- Feedback and Ranking
- Referrals and Rewards

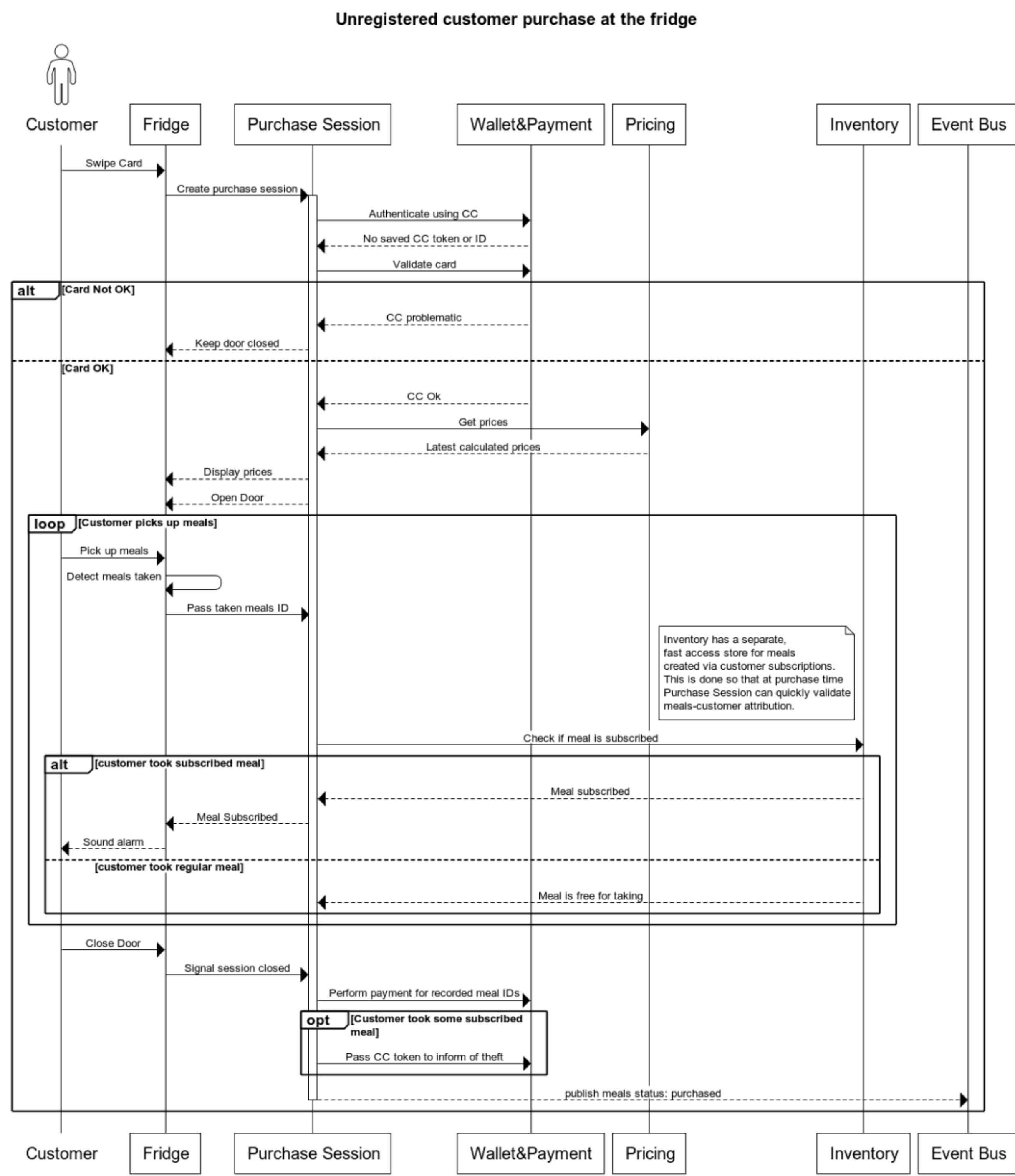
Stage 3 Capabilities

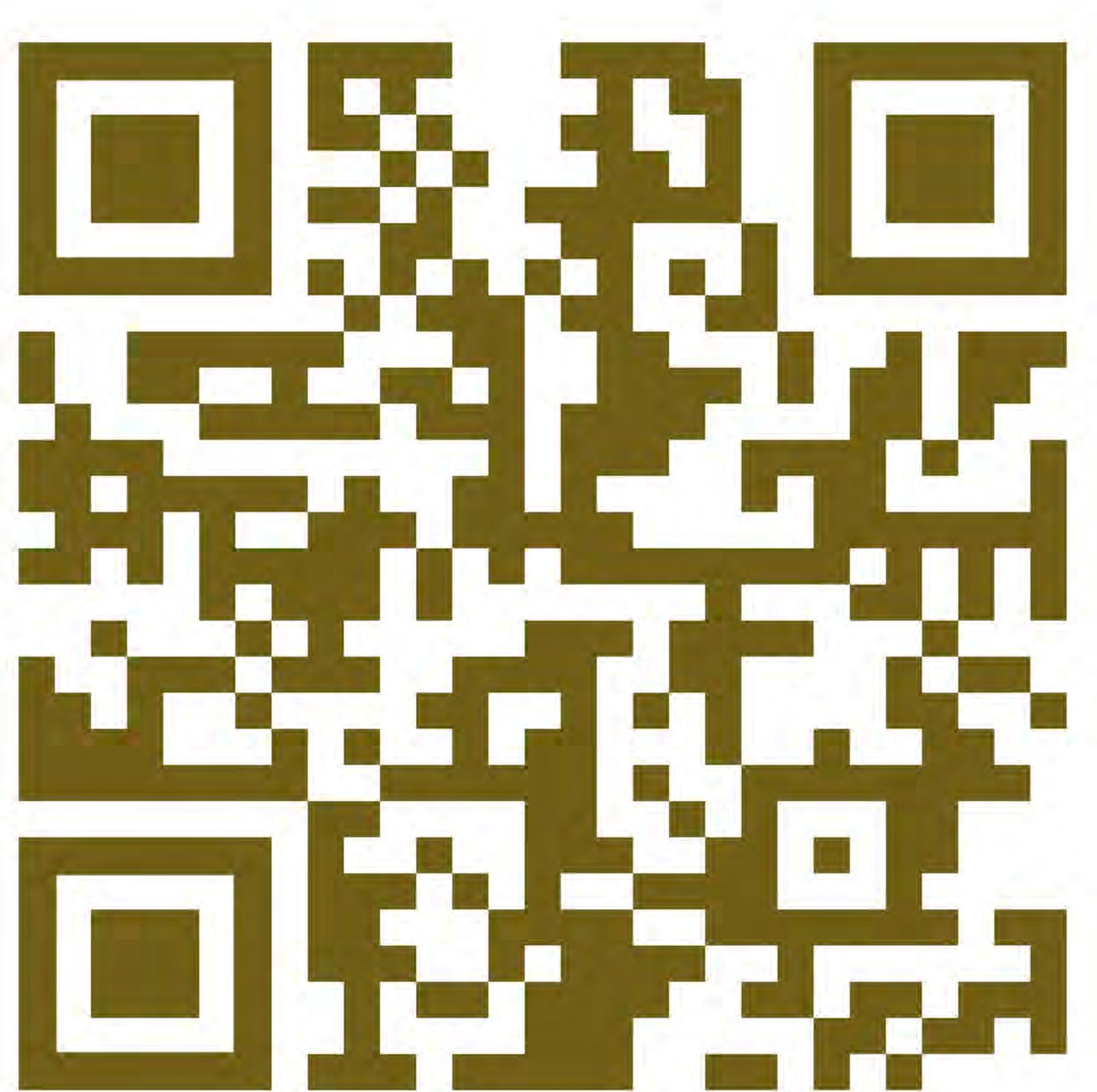
- Data Platform
- Expert Platform and CMS

Customer notifications

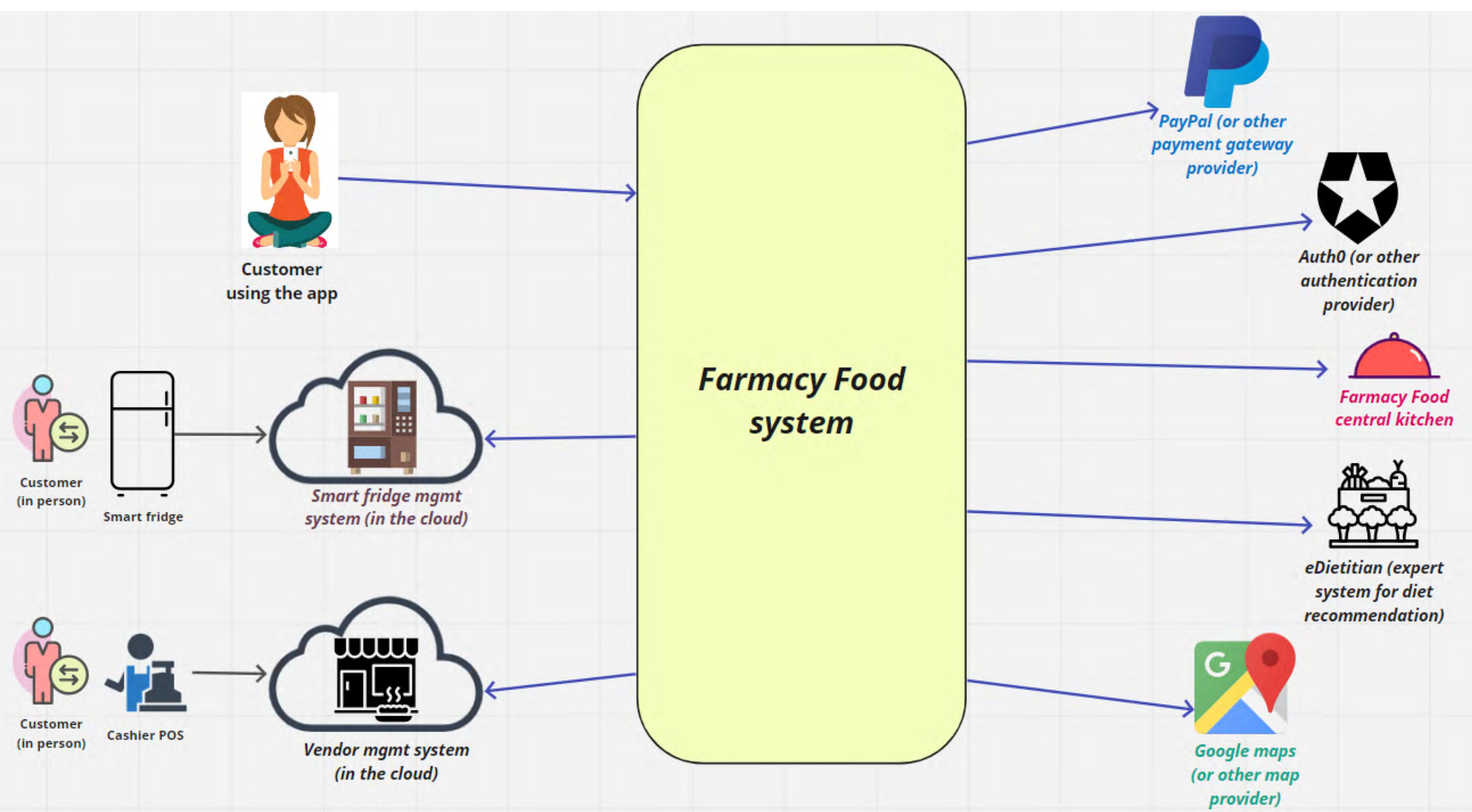


Sequence Diagrams

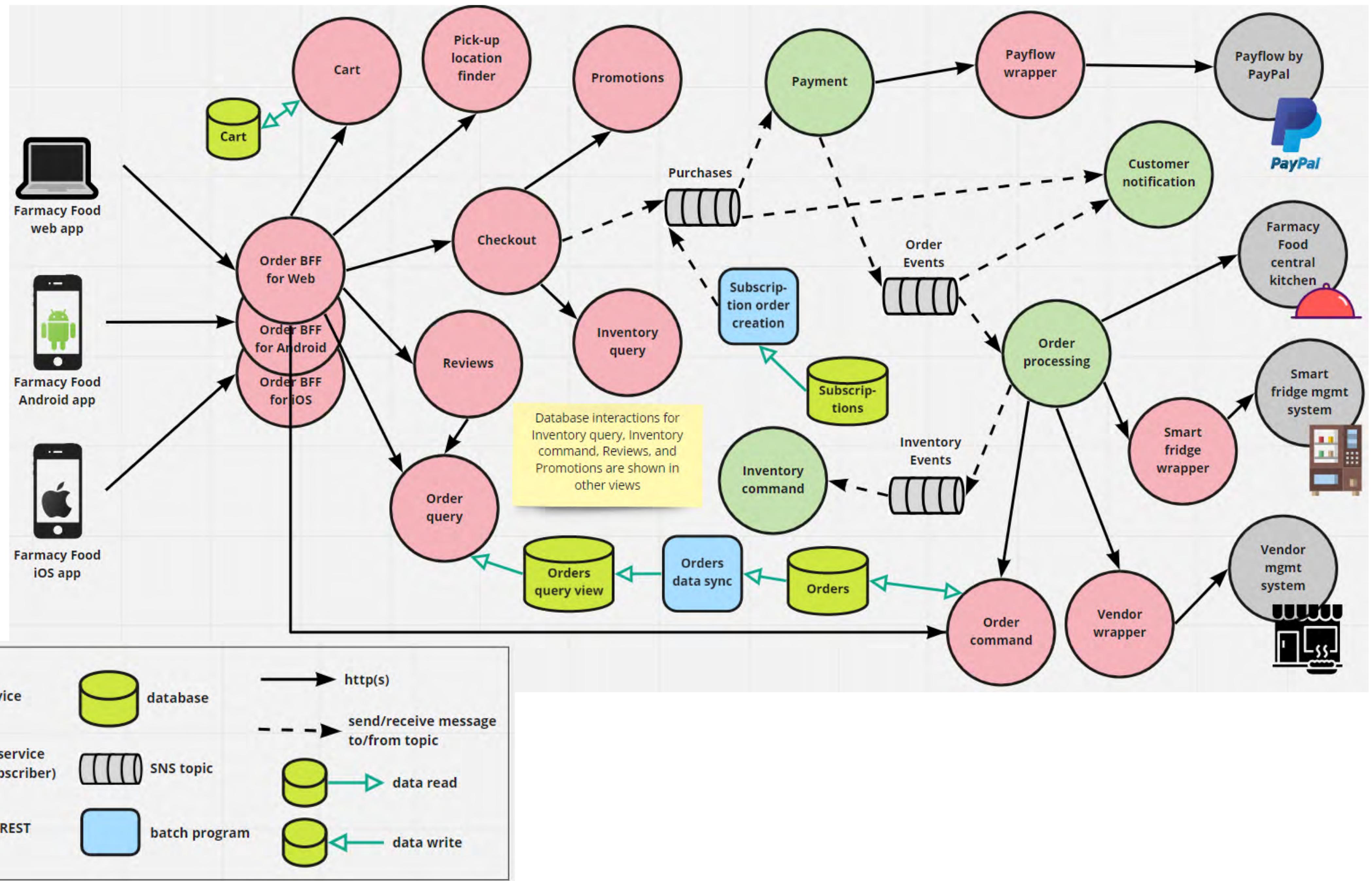




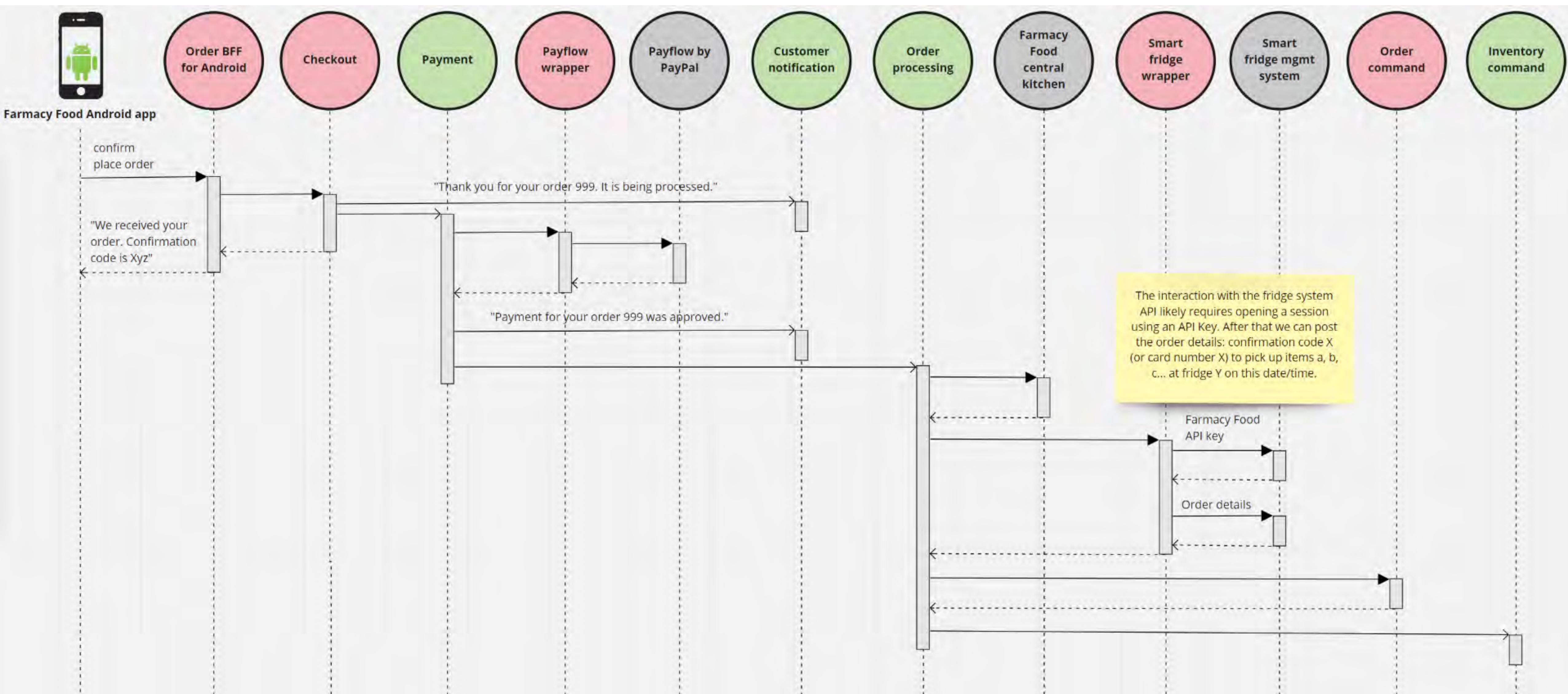
<https://github.com/miyagis-forests>



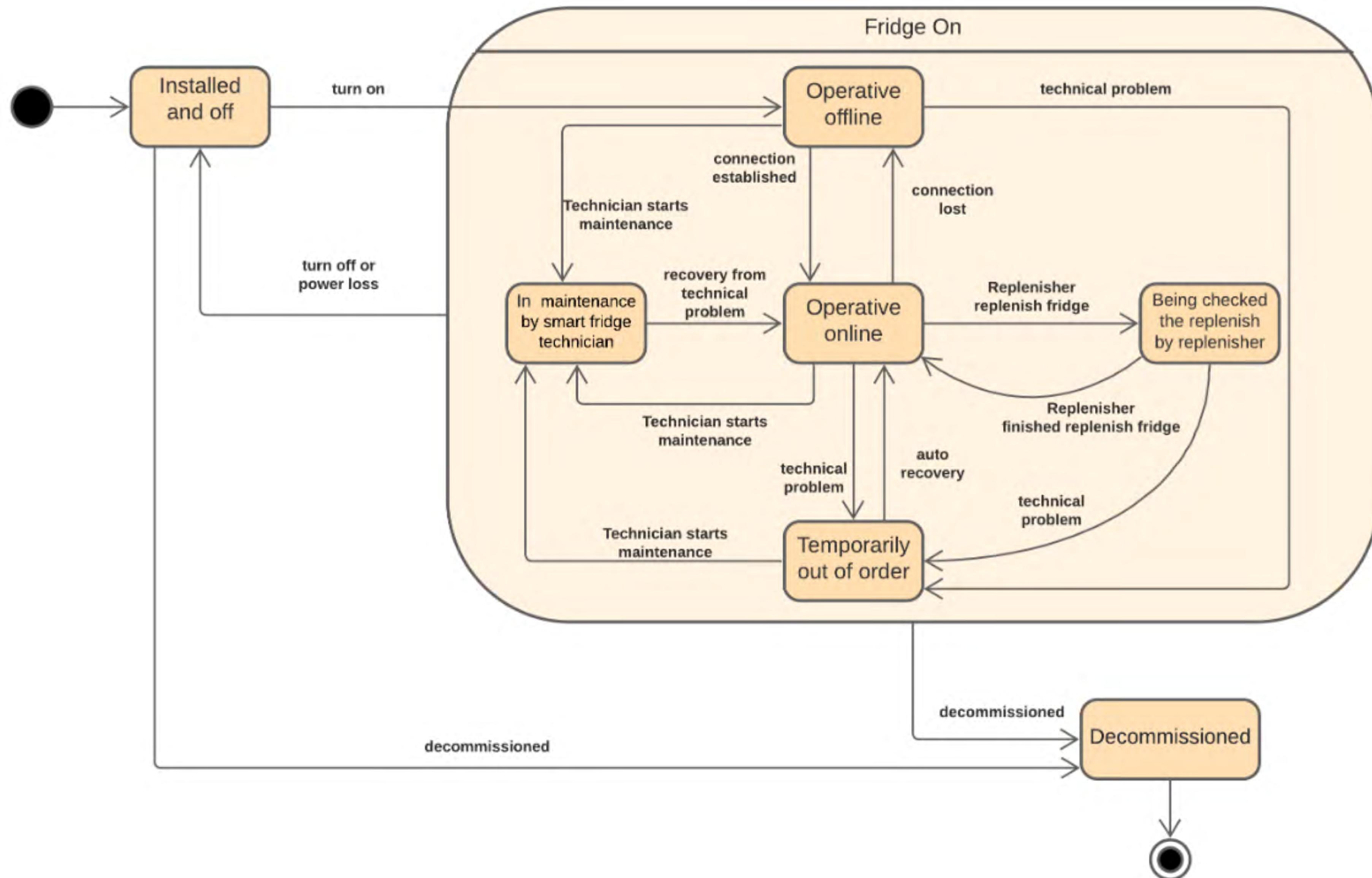
Microservices



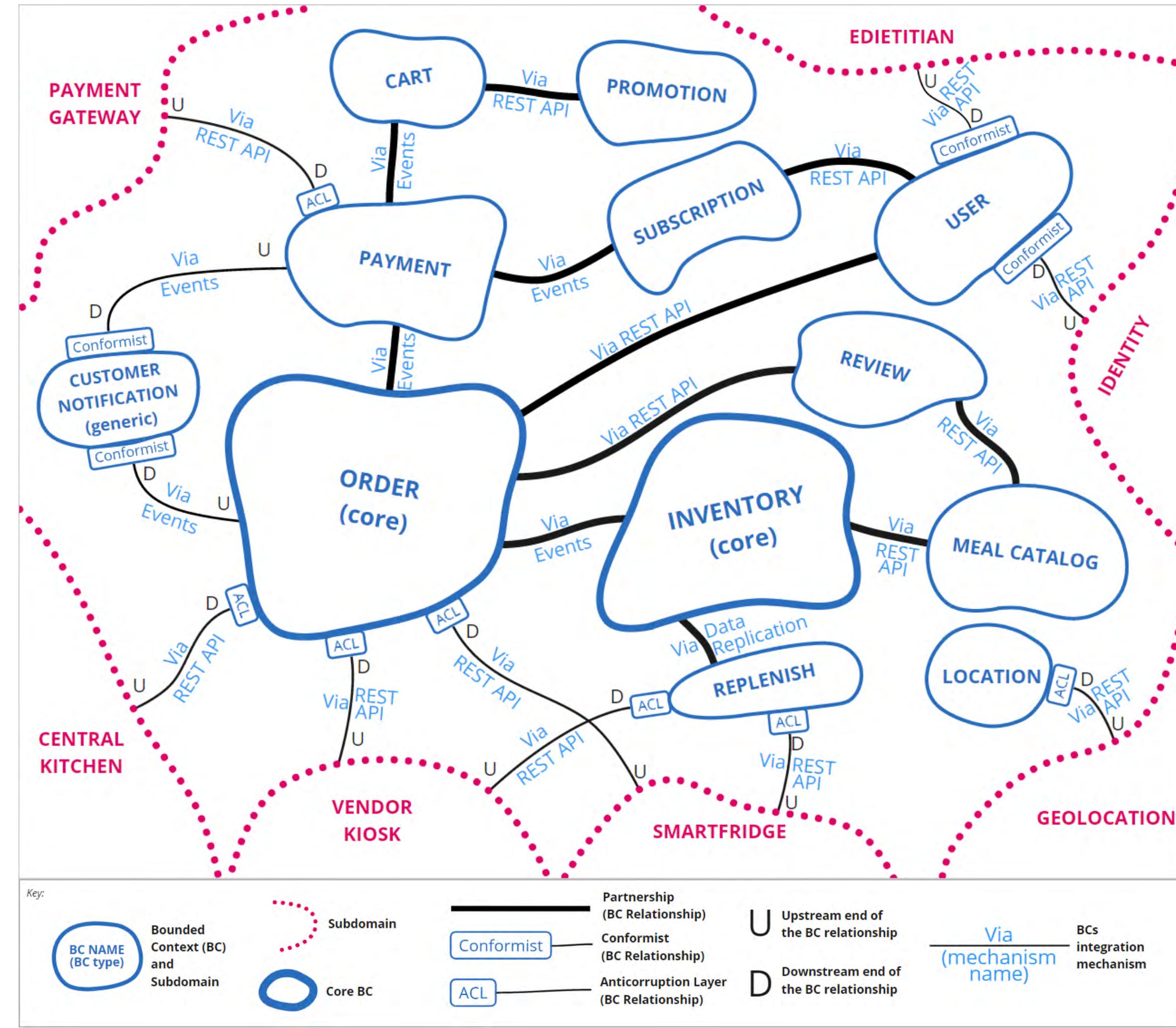
Behavior



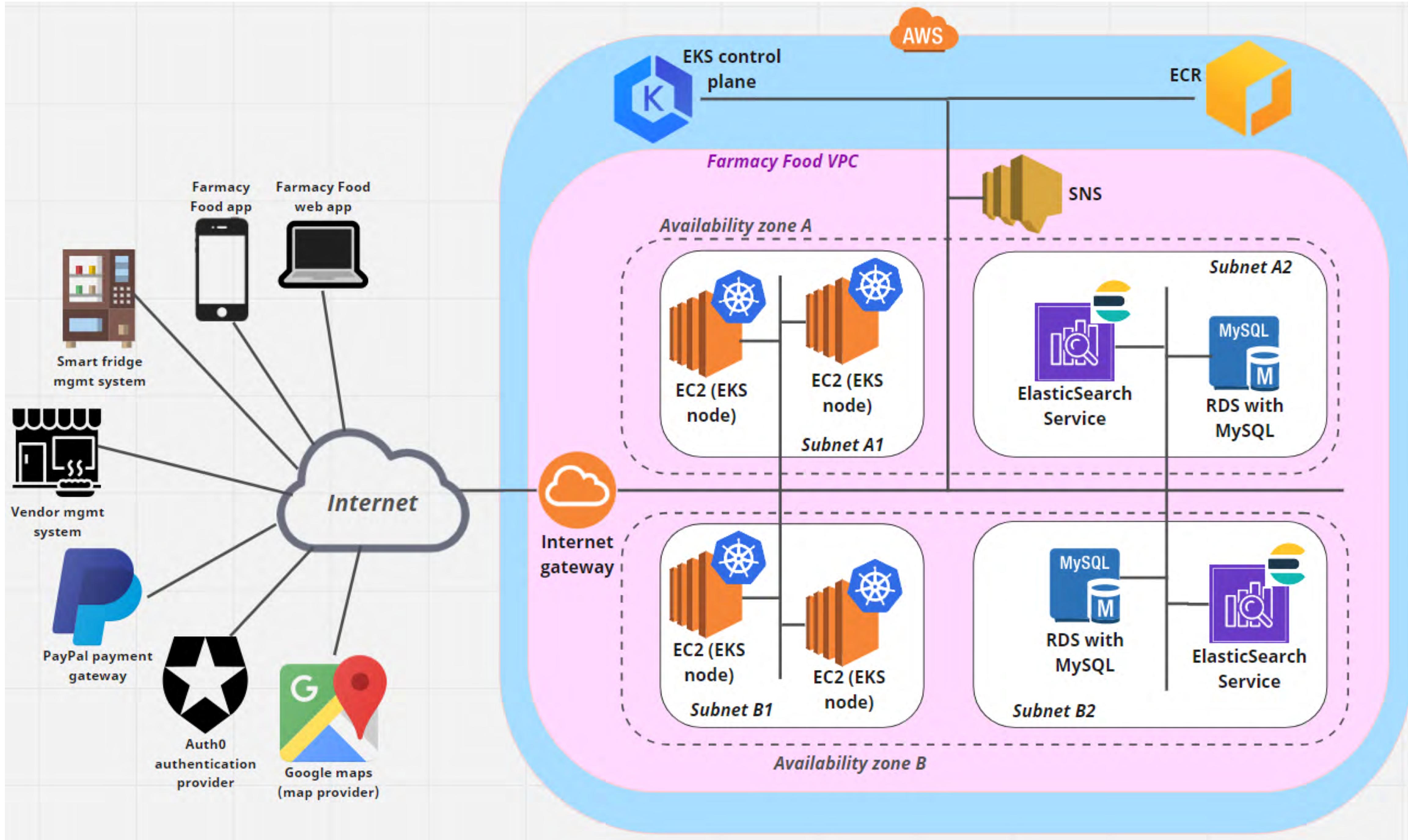
UML State Machine!



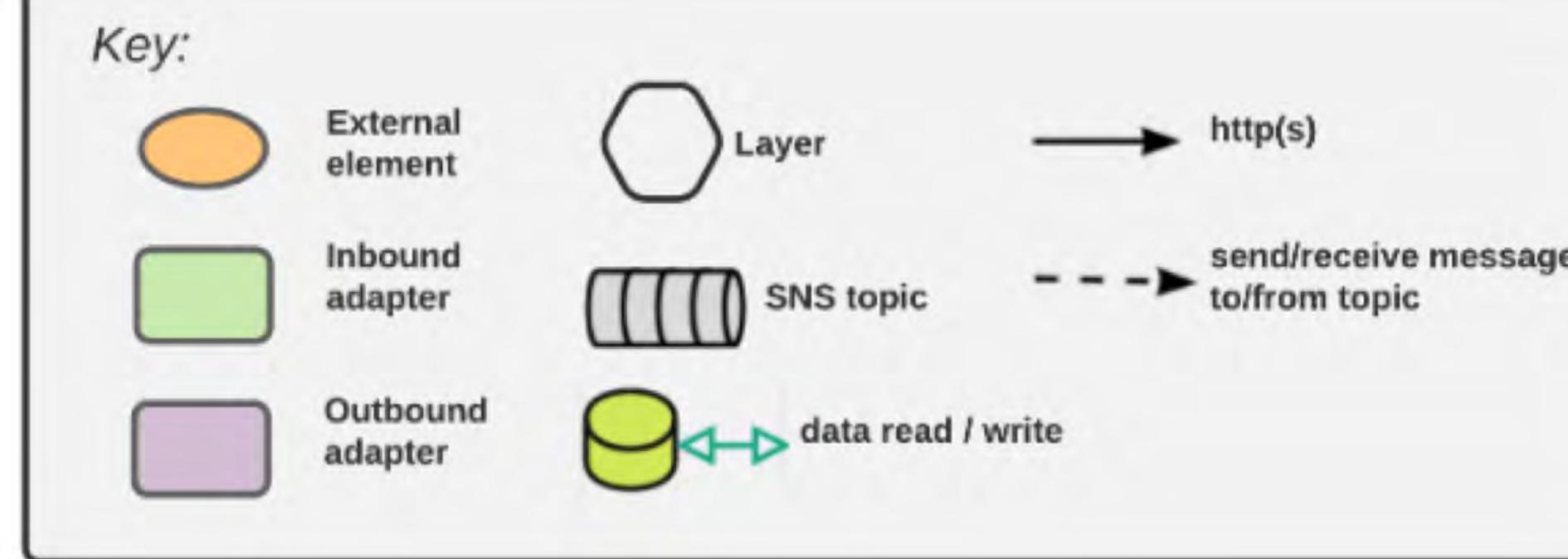
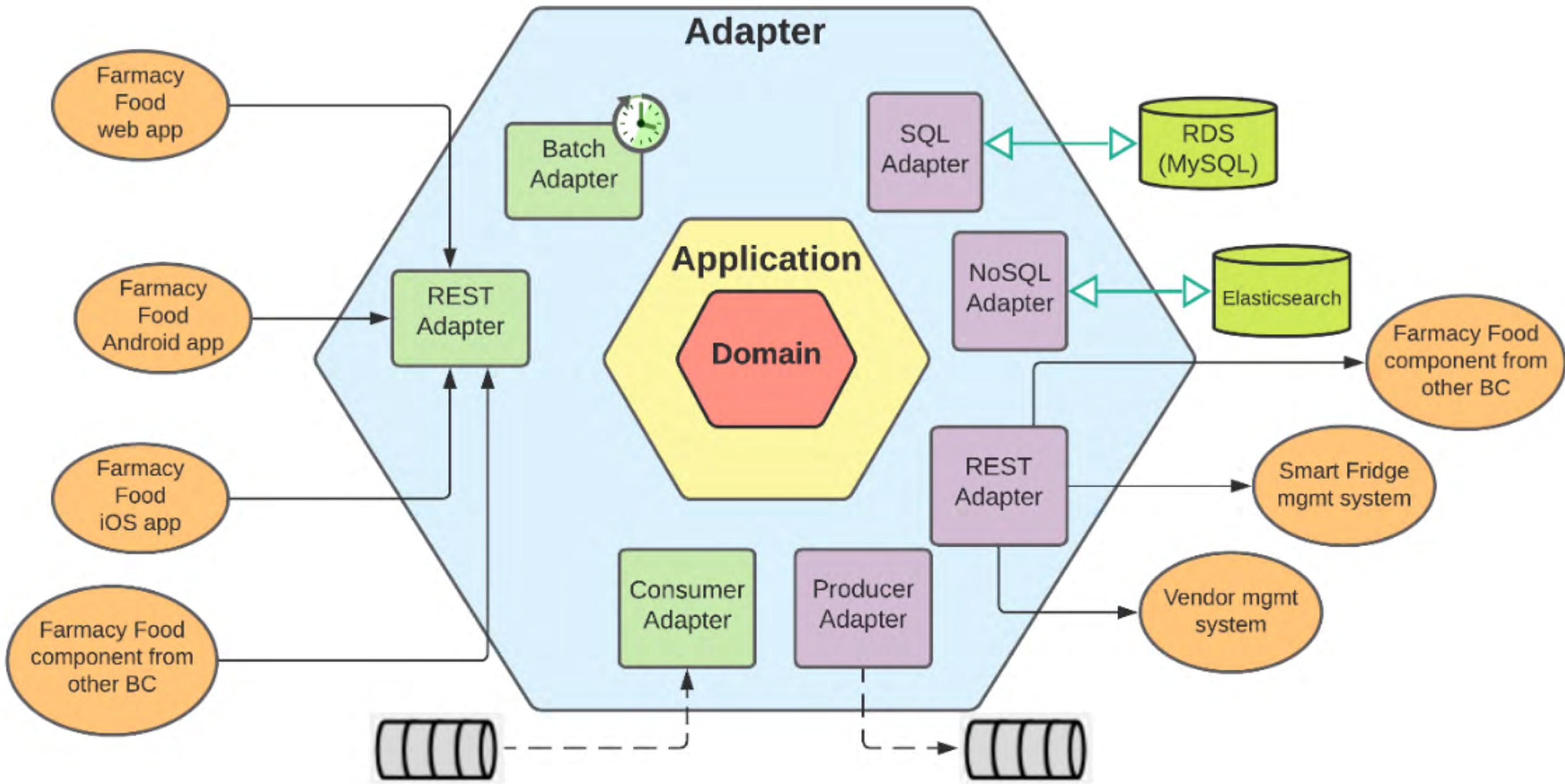
DDD Bounded Context Diagram

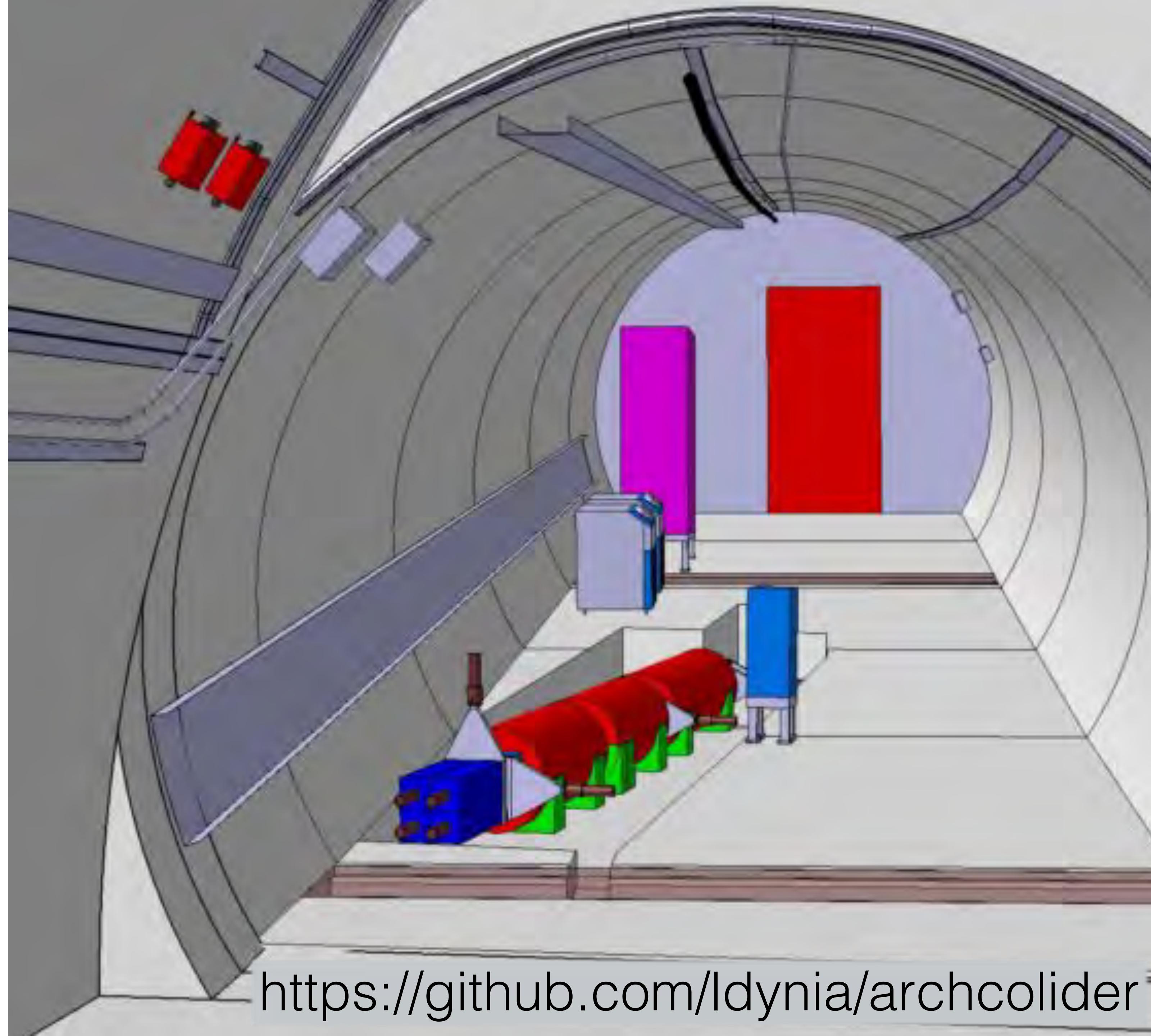
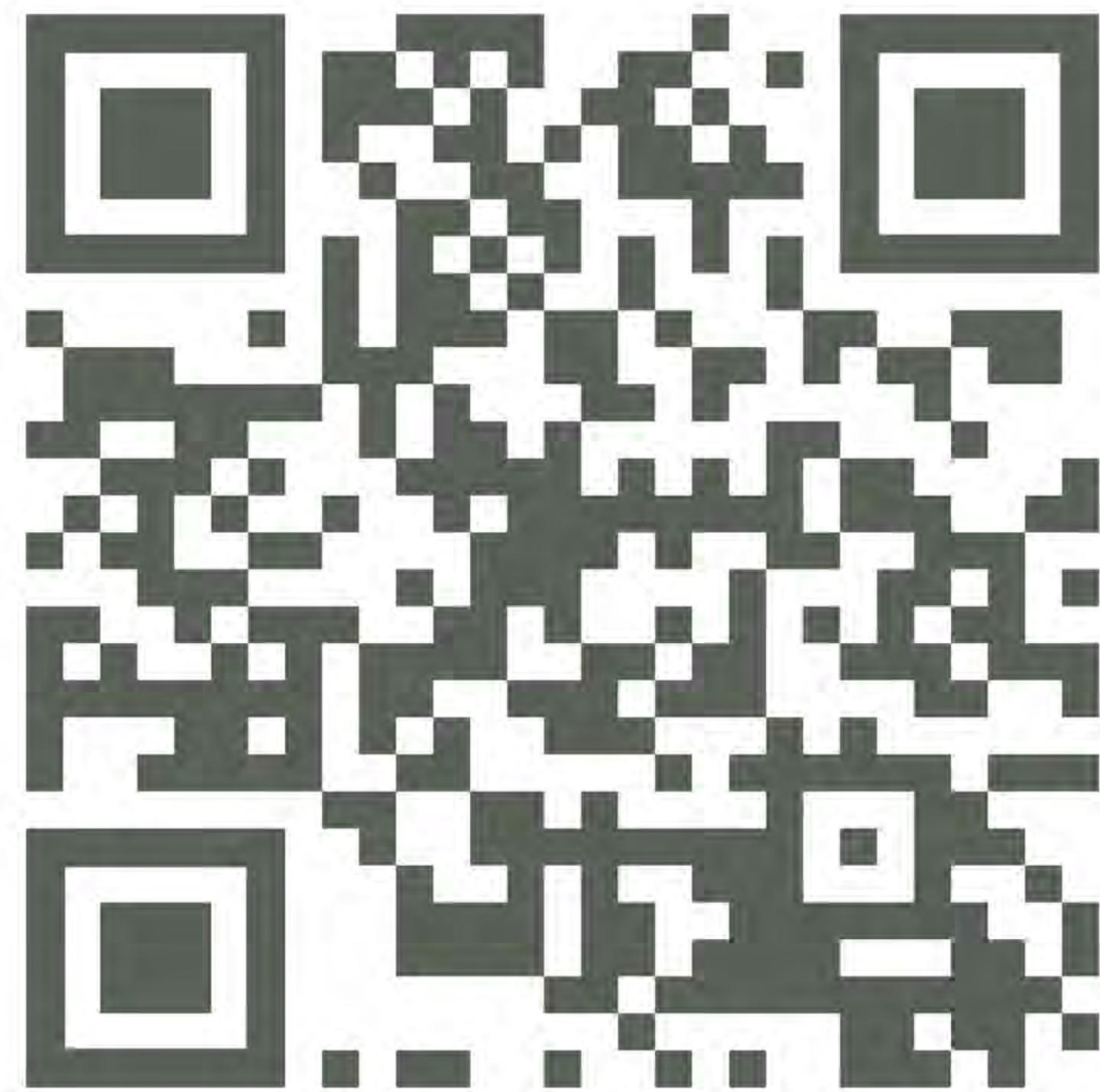


Deployment View



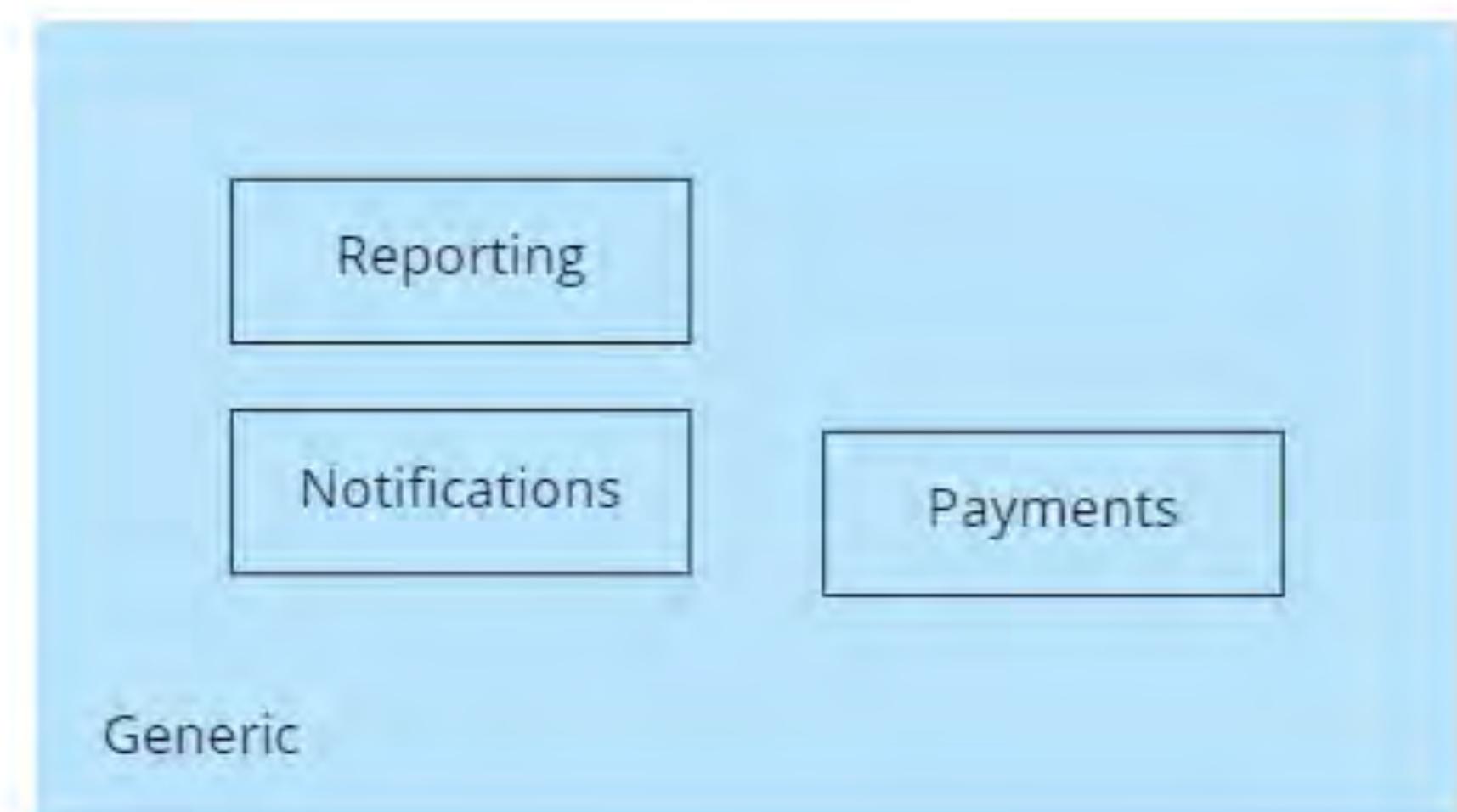
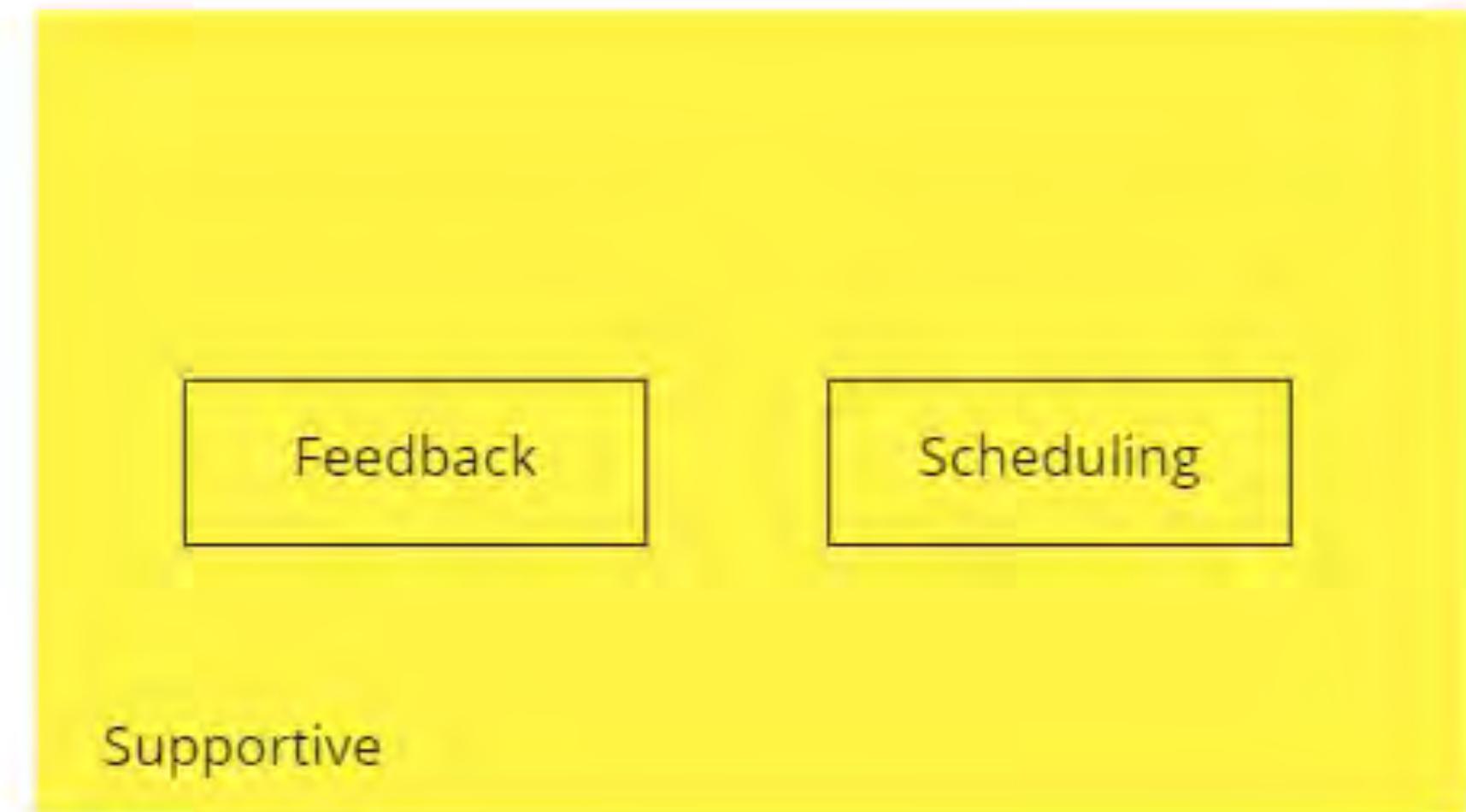
Service-mesh Ready





<https://github.com/ldynia/archcolider>

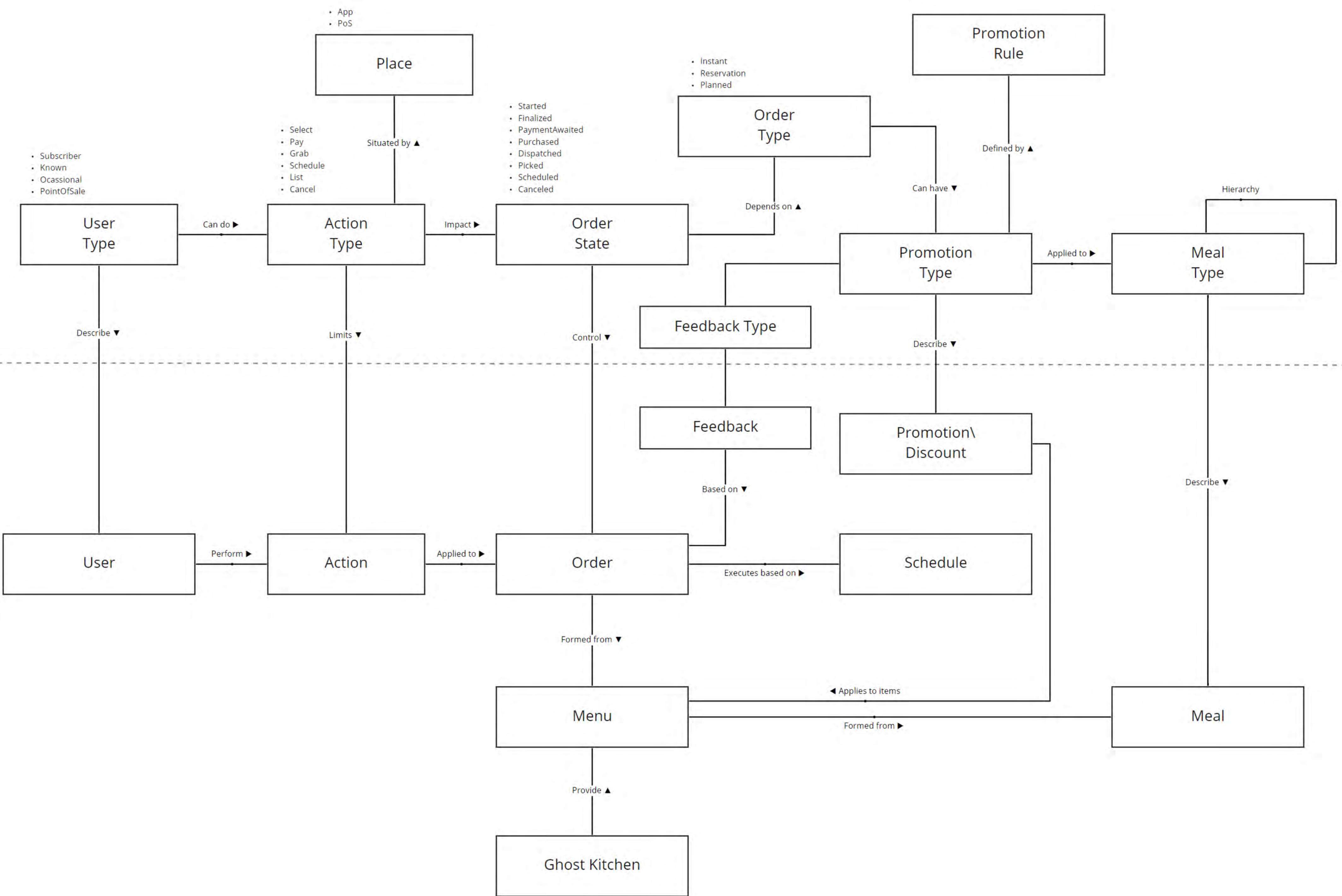
Uniqueness



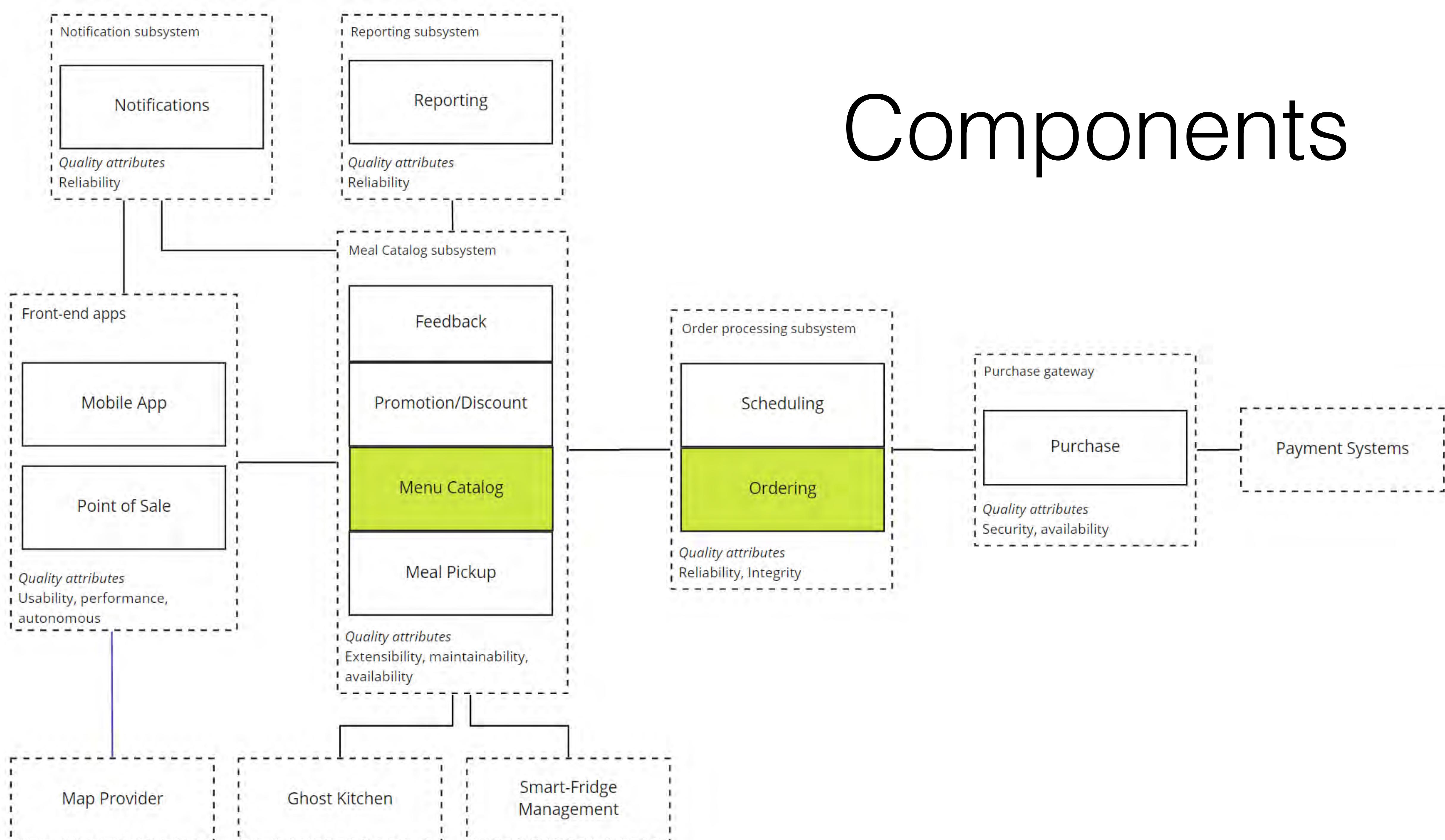
Complexity

miro

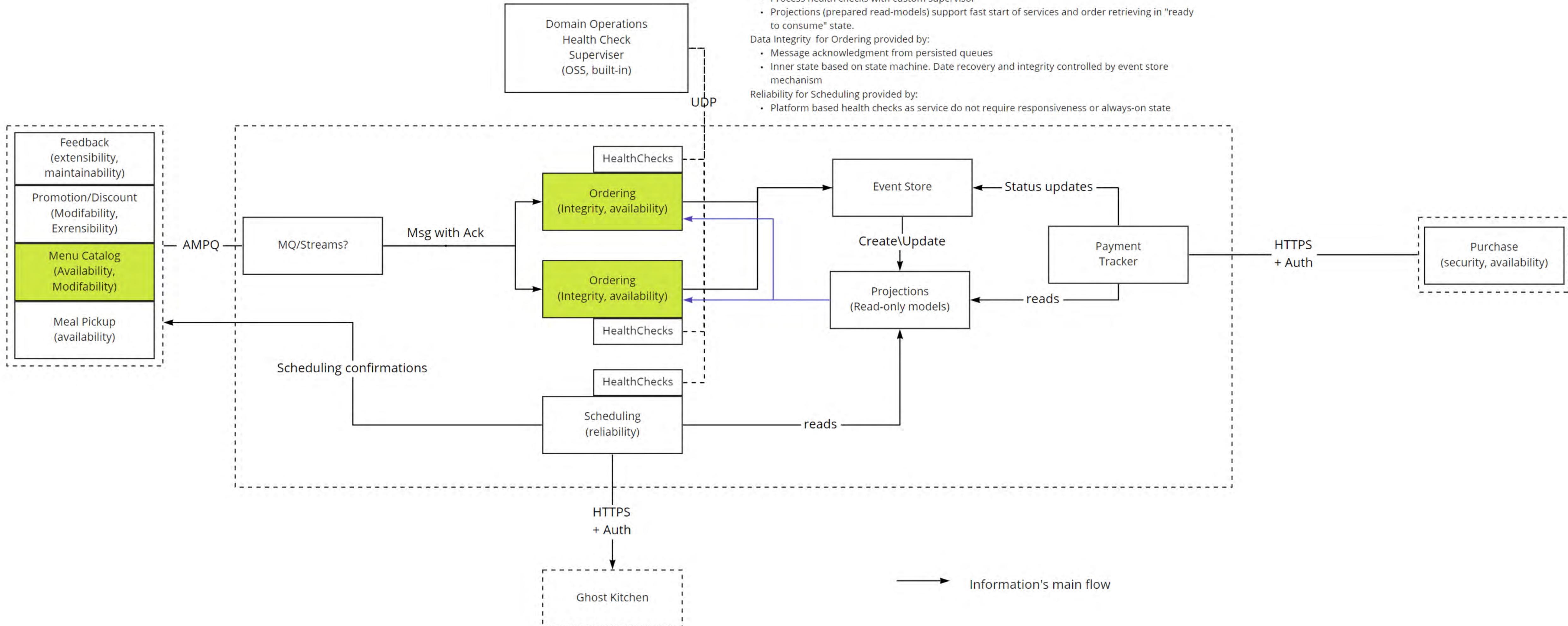
Conceptual Model



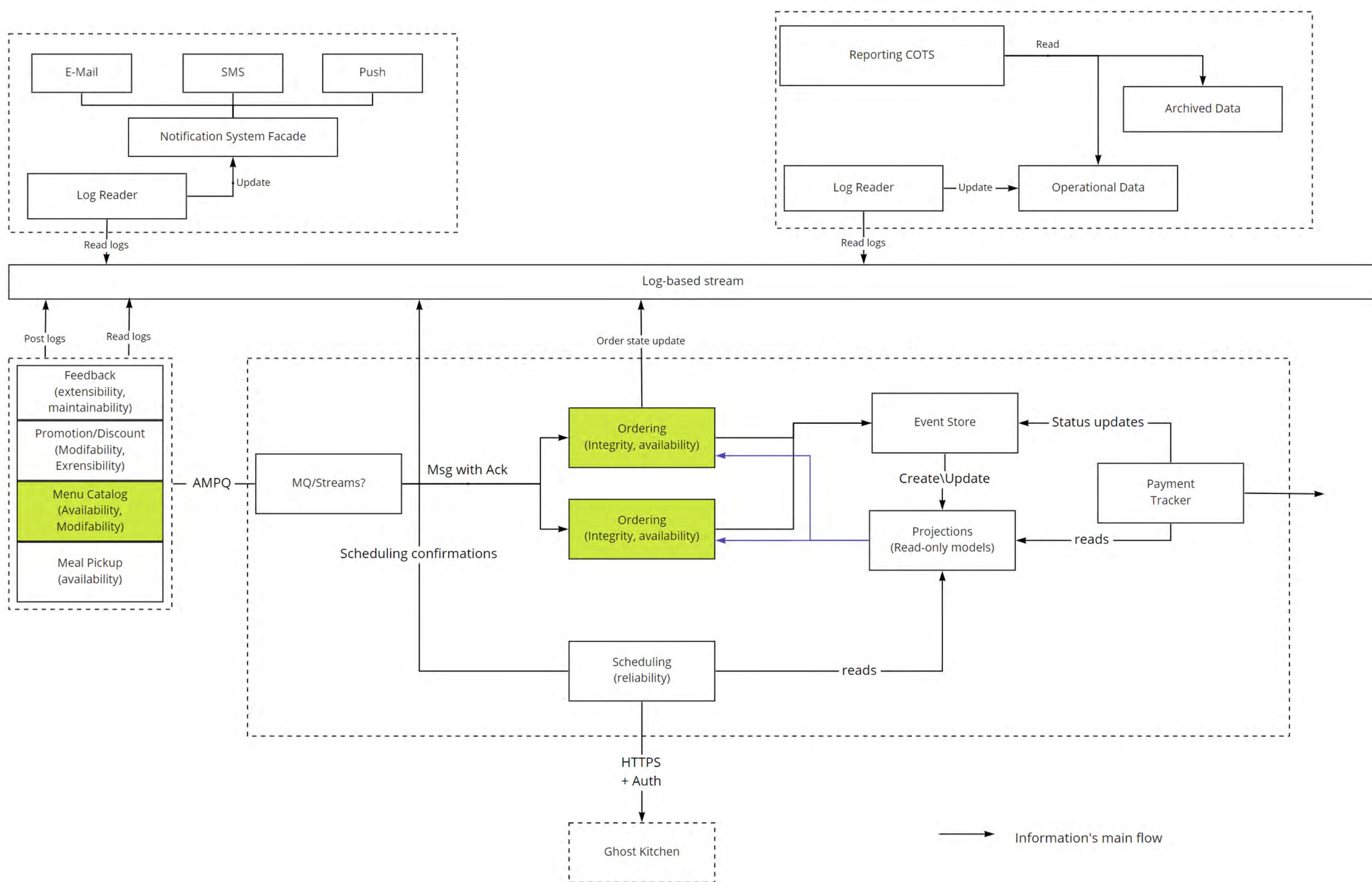
Components



Event Sourcing



Log-based communication propagation for information



Cost Analysis

Data&PayloadsEstimates.xlsx - LibreOffice Calc

File Edit View Insert Format Styles Sheet Data Tools Window Help

G31 fx Σ = size

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	UTF-16 Encoding	https://www.fda.gov/food/buy-store-serve-safe-food/what-you-need-know-about-food-allergies														
2	Type	Length	Size (bytes)	Total (bytes)	Total (KiB)											
3	Meal			6200		138	Order									
4	Id	guid	1	16	16		order id	guid	1	16	16					
5	Description	string	500	4	2000		user id	guid	1	16	16					
6	KitchenId	guid	1	16	16		meal id	guid	3	16	48					
7	Price	float + currency	1	8	8		time	datetime	1	8	8					
8	<i>Nutrition Info</i>				0		source	byte	1	1	1					
9	Energy	float + float	2	4	8		promo id	guid	2	16	32					
10	Protein	float + float	2	4	8		type	byte	1	1	1					
11	Fat	float + float	2	4	8		state	byte	1	1	1					
12	Saturated fat	float + float	2	4	8		feedbackid	guid	1	16	16					
13	Carbohydrate	float + float	2	4	8		Feedback									
14	Sugar	float + float	2	4	8		id	guid	1	16	16					
15	Sodium	float + float	2	4	8		order id	guid	1	16	16					
16	Vitamins	float + float	20	4	80		date	datetime	1	8	8					
17	Ingradients	string	1000	4	4000		rate	byte	3	1	3					
18	Alergens	List<byte>	8	1	8		description	string	1000	4	4000					
19	Type	guid	1	16	16		Promo									
20	Catalog			124016			id	guid	1	16	16					
21	KitchenId	guid	1	16	16		kitchen	list of guid	1	16	16					
22	Meals	meal	20	6200	124000		meal type	list of guid	1	16	16					
23	User			7364			meal list	list of guid	3	16	48					
24	id	guid	1	16	16		date range	datetime	2	16	32					
25	Name	string	200	4	800		description	string	1000	4	4000					
26	Login	string	100	4	400		discount	float	4	8	32					
27	Payment info	Payment info	1	1024	1024		rules	list of rules	2	16	32					
28	Type	int	1	4	4											
29	Preference	preference	5	1024	5120											
30							#records per day	#records per month	size	unit						
31							500	15000	1.98	GiB/Month						
32							1000	30000	3.96	GiB/Month						
33							5000	150000	19.80	GiB/Month						
34							10000	300000	39.61	GiB/Month						
35																
36																
37																
38																
39																
40																

DataTypes Forecasts Payload

Sheet 1 of 3 PageStyle_DataTypes English (USA) Average: ; Sum: 0 110%

Organization + Completeness

Solution Structure

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- [Glossary](#)
- [Questions to System Owner](#)
- [Problem Background](#)
 - [System overview](#)
 - [Goals and Context](#)
 - [Constraints](#)
 - [Stakeholder](#)
 - [Significant Driving Requirements](#)
- [Solution Background](#)
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 - [Assumptions](#)
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 - [Tradeoffs](#)
 - [Risks and Sensitive points](#)
 - [ADRs](#)
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 - [User Scenarios](#)
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 - [Concurrency](#)
 - [Deployment](#)
 - [Cost Analysis](#)
 - [Security](#)

Q&A

The Sysops Squad

Penultimate Electronics is a large electronics giant that has numerous retail stores throughout the country. When customers buy computers, TV's, stereos, and other electronic equipment, they can choose to purchase a support plan. Customer-facing technology experts (the “Sysops Squad”) will then come to the customers residence (or work office) to fix problems with the electronic device.



Go forth & do some
architecture!

