

Prove IT



HomeTrumpeter



Tenant

Consult and schedule repairs and maintenance using one of the verified service experts in the blink of an eye.

Home Owner

Easily liaise between tenants and service providers and automate payment collection systems for rent and other property management-related costs.

Service Provider

Issue and track the progress of property maintenance requests from tenants and home owners.



Vision

API Economy

The technology that upholds APIs has been around for decades. Recent growths in cloud computing has led to an increase in use and reliance on 3rd party APIs.

This leaves a gap in the market waiting to be filled, which HomeTrumpeter aims to fill in the property management markets.

API Economy



Market size is the total amount of all sales and customers that can be seen directly by stakeholders. This can be used by companies to determine the potential of their market and business in the future. This is very useful, especially for new companies that will offer services to those who are interested.

Total Available Market

\$ 5.4 Billion

Reported in 2021

\$ 47 Billion

Projected in 2030

Benefits

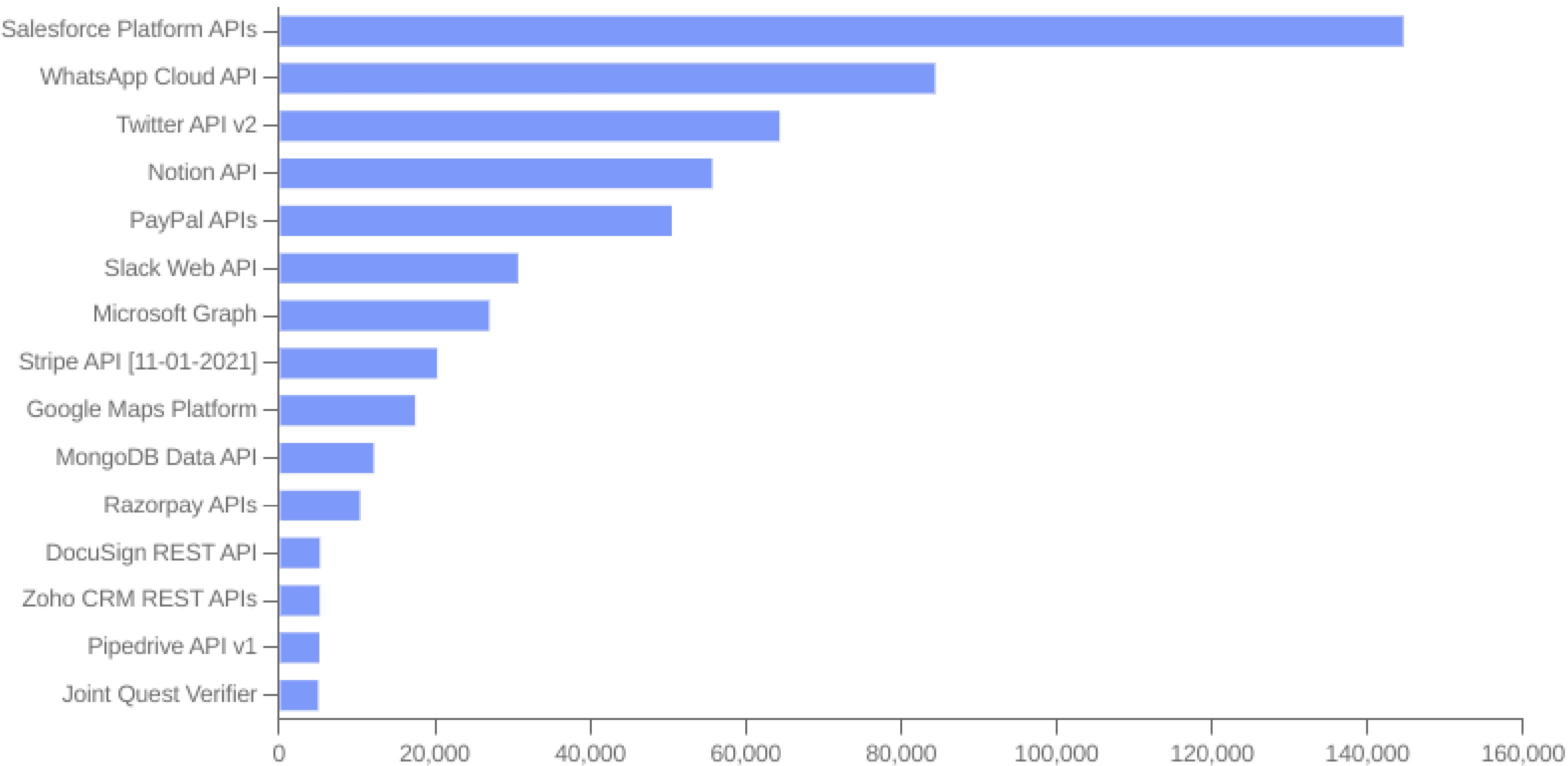
Globalization

Flexibility

More robust and complex subsystems

Improved security

Scalability from start-ups to large-scale enterprises



Source: "2023 State of the API Report." *Postman API Platform*, 2023, www.postman.com/state-of-api/api-global-growth/.

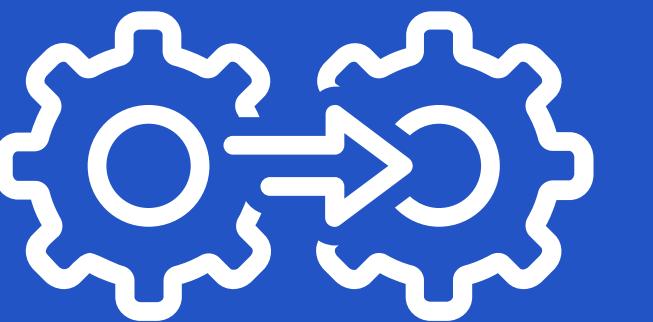
Problems

It is very difficult to see how the API will work in the real world.

Security



Integration



Feedback



Solutions



The solutions provided should uphold the mission and vision of HomeTrumpeter LLC. In pursuit of API integration and testing, various factors will be taken into consideration that may affect the business model.

Integration

The solutions should test the HomeTrumpeter API by using the most **up-to-date technologies** and **frameworks**.

Security

The solutions will ensure security by conducting **comprehensive tests** against the '**black box**' API.

Scalability

The solutions should leverage the shift towards **cloud computing** and **re-usability** of complex software components

End User

The solutions offered need to be based on **sound market decisions** so that they can have **impact**.

Our Team



Victor Balogun
Agile Coach

Oversee multiple agile teams within the organization & provide mentorship for implementing agile principles. The Agile Coach will also provide training pertaining to agile principles.



Gabriel O
Industrial Mentor

Provide guidance relating to industrial technologies and practices. Provide training materials relating to required technologies



HomeTrumpeter
Stakeholder

Provide requirements of the system and details about pre-existing technical infrastructure (API, Private cloud). The stakeholders will be actively engaged in the development process by testing and providing feedback on product releases

Our Team



Liam Kristjanson

*Scrum Master, Product Owner,
Project Leader*

Lead the team in day-to-day organization and communication

Research the best practices for Agile development, and ensure the team follows these principles

Facilitate communication between the development team and stakeholders by acting as a primary contact point



Xiao Zhang

Technical Leader

Coordinate technical requirements between the stakeholders and project team

Evaluate and select technologies that could be used to implement functional requirements in the product



Vi Le

Lead Developer

Lead the team in the development process

Develop and enforce programming standards

Our Team

**Arshjot Ghuman***Lead Quality Assurance Engineer*

Lead the testing and quality assurance efforts of the team

Develop and maintain the CI/CD pipeline

Enforce testing coverage of the codebase

**Usmaan Sahar***Lead Systems Analyst/Designer*

Gather and clarify requirements from stakeholders and users

Ensure the product conforms to usability goals and design principles

Lead the architecture and interface design efforts of the team

**W A Shadman***Lead DevSecOps Engineer*

Implement automated security checks within the continuous development and deployment of the product

Lead the overall product and process security efforts of the team

Identify and address potential vulnerabilities throughout the design and development processes

Identify, measure, and mitigate risks to the product and project

Challenges

Lack of Experience

Team members have not worked on a project with some of the technologies used in this project.

Scheduling

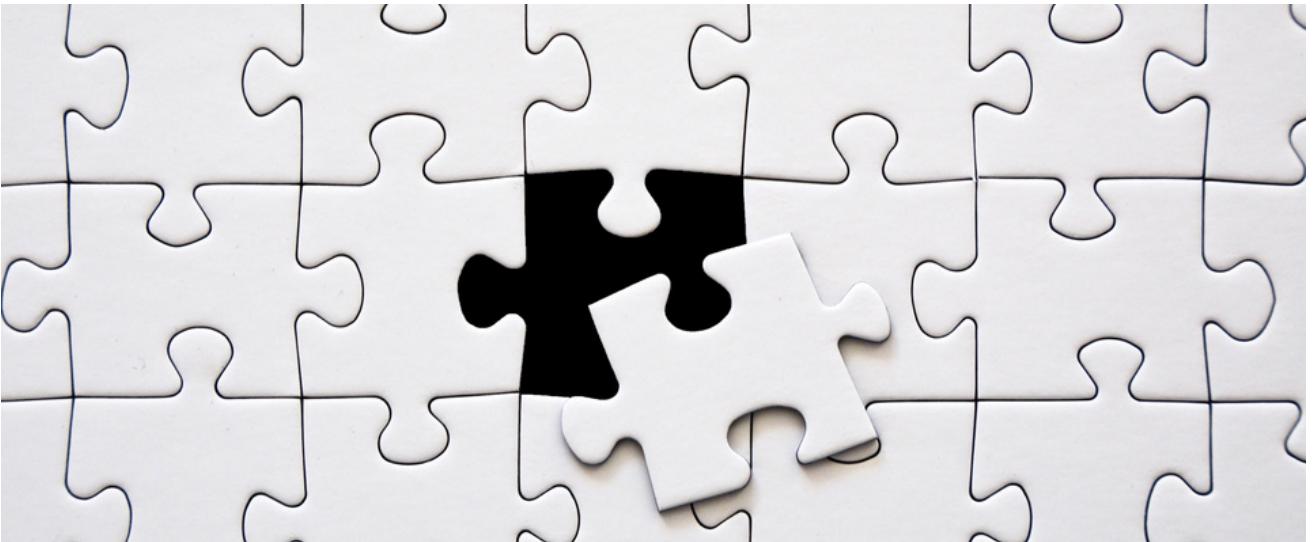
The team is very busy and will face difficulty to find common time amongst each individuals' own schedule.

Storming & Norming

Team members were selected at random and must get to know each other before collaboration begins.

Scope Creep

The project is open-ended, which allows for the possibility of countless new feature requests.

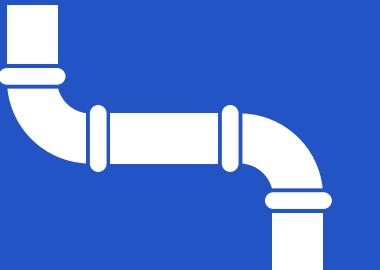


Scope

**Medium Fidelity
Prototype**



CI/CD Pipeline



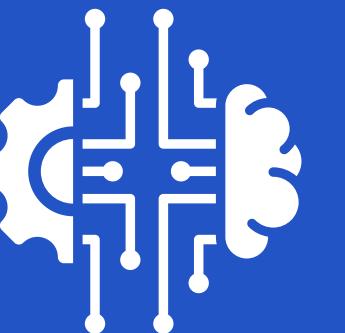
Web Application



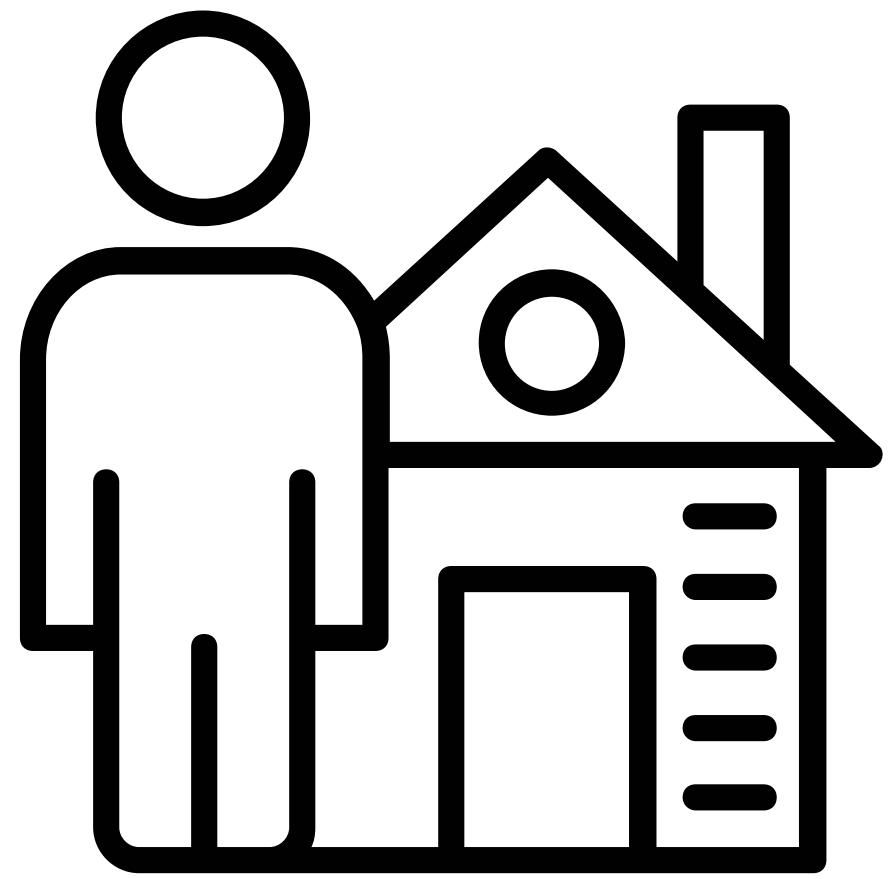
Mobile Application



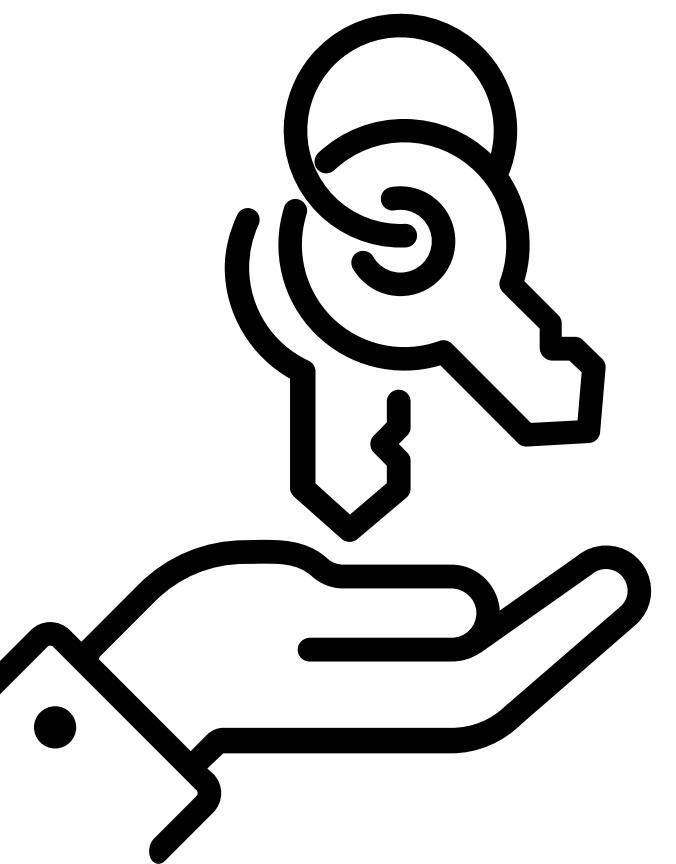
**Machine Learning
Model**



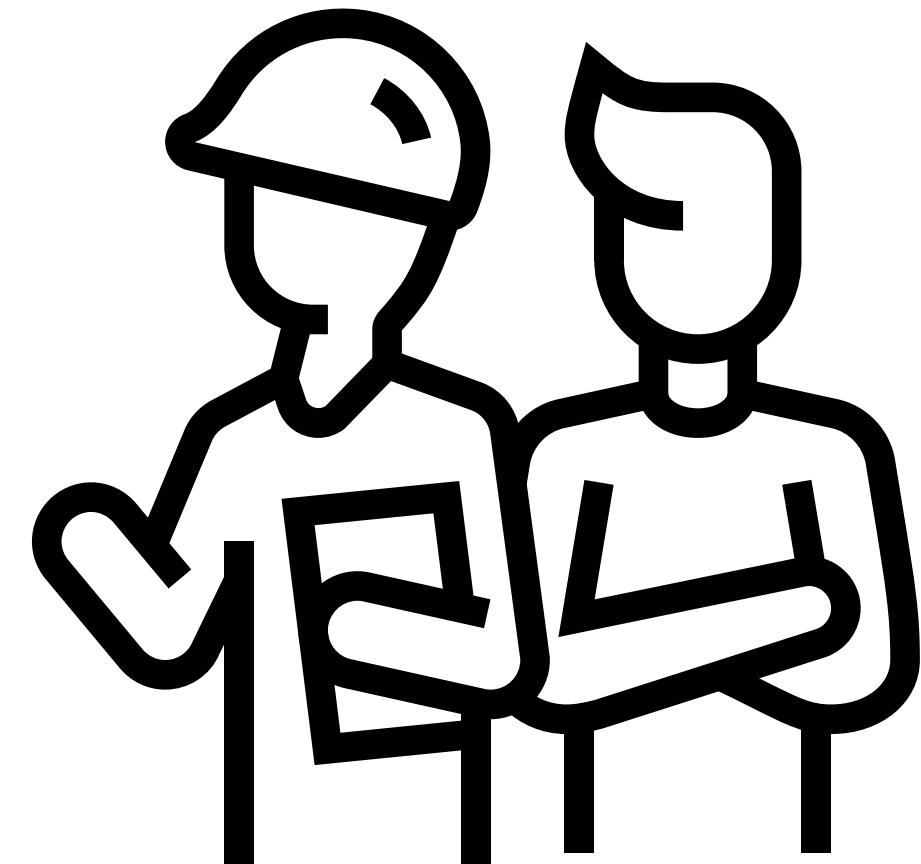
User Stories



Homeowners/Manager

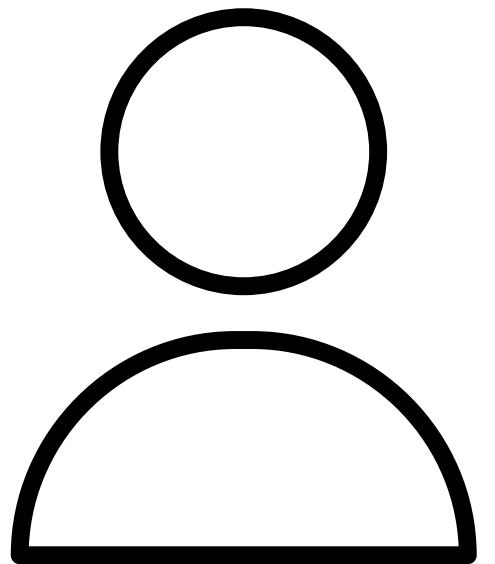


Tenents



Service Providers

All Users

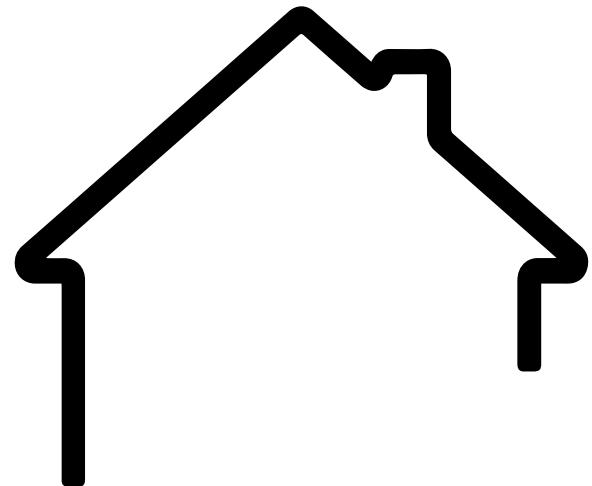


Log In

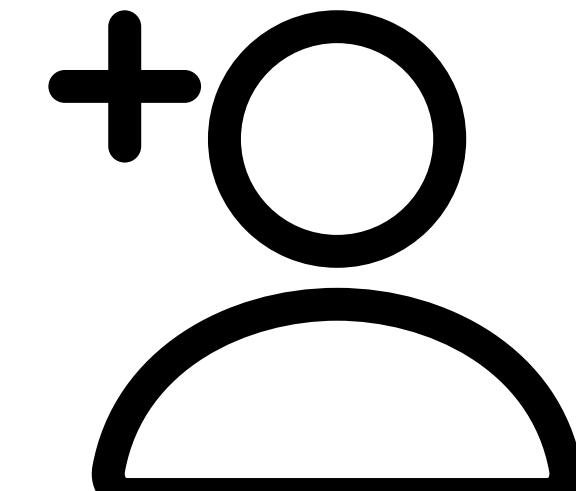


Sign Up

Homeowners/Managers



Add and manage properties.

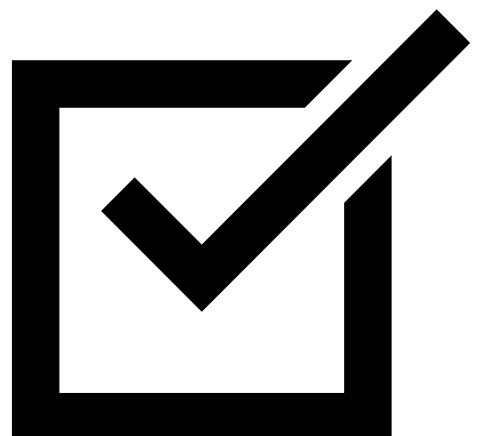


Invite both Tenets and Service providers.

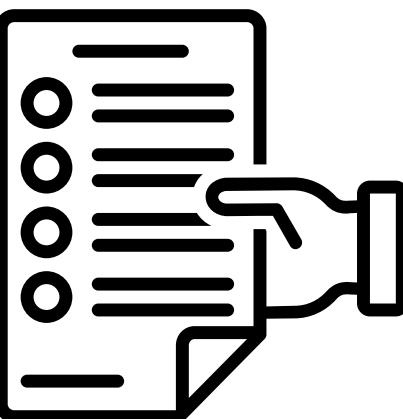


Communicate with both to maintain the properties.

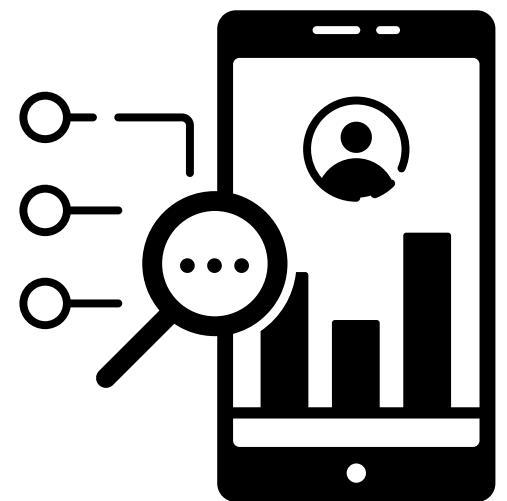
Tenants



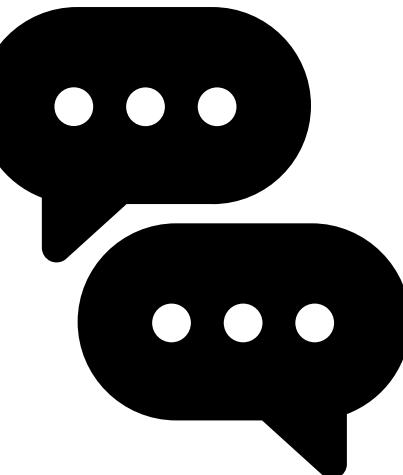
Accept
Invitation
from Home
owner.



Submit a
service
request.

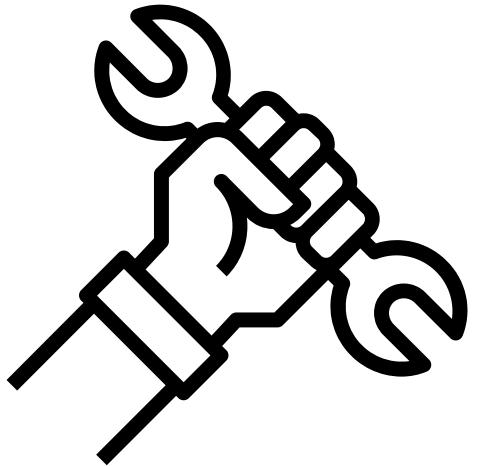


Track Service
request and
their status.



Communicate
with Home
Owner.

Service Providers



Accept
Invitation
and request.

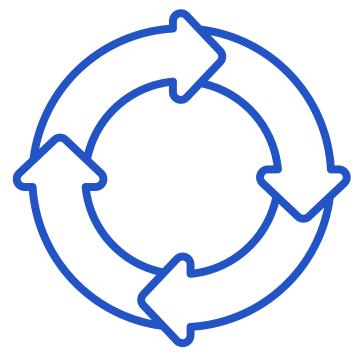


Provide
quotes for
dates and
rates.

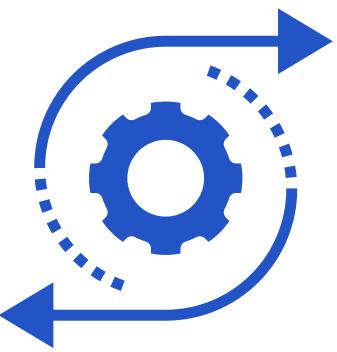


Apply for
public
status.

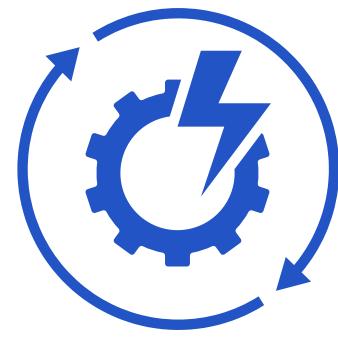
Agile - Values & Principles



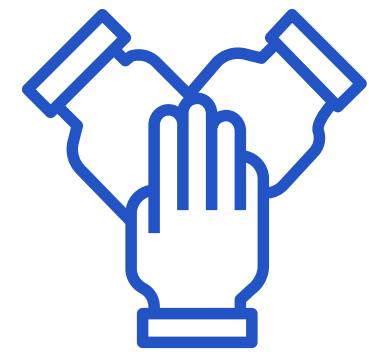
Continuous Delivery



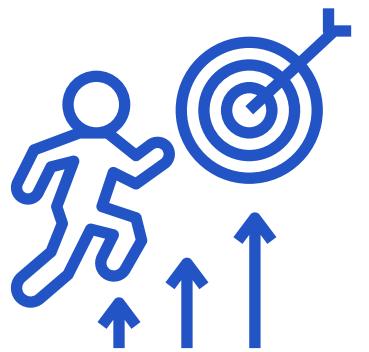
Changing Requirements



Short Timescales



Consistent Collaboration

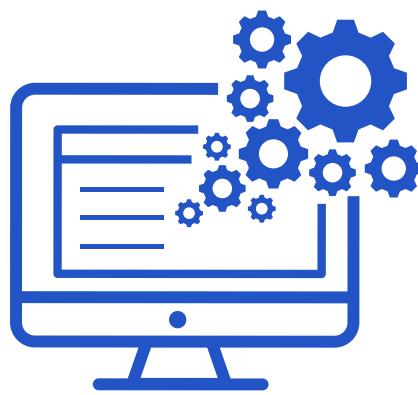


Motivated Individuals



Face-to-Face Communication

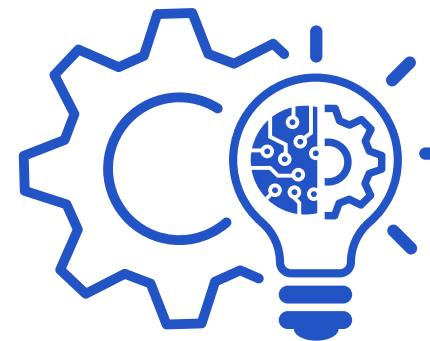
Agile - Values & Principles



Working
Software



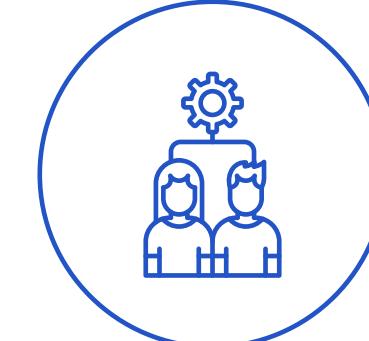
Consistent
Pace



Technical
Excellence



Simplicity

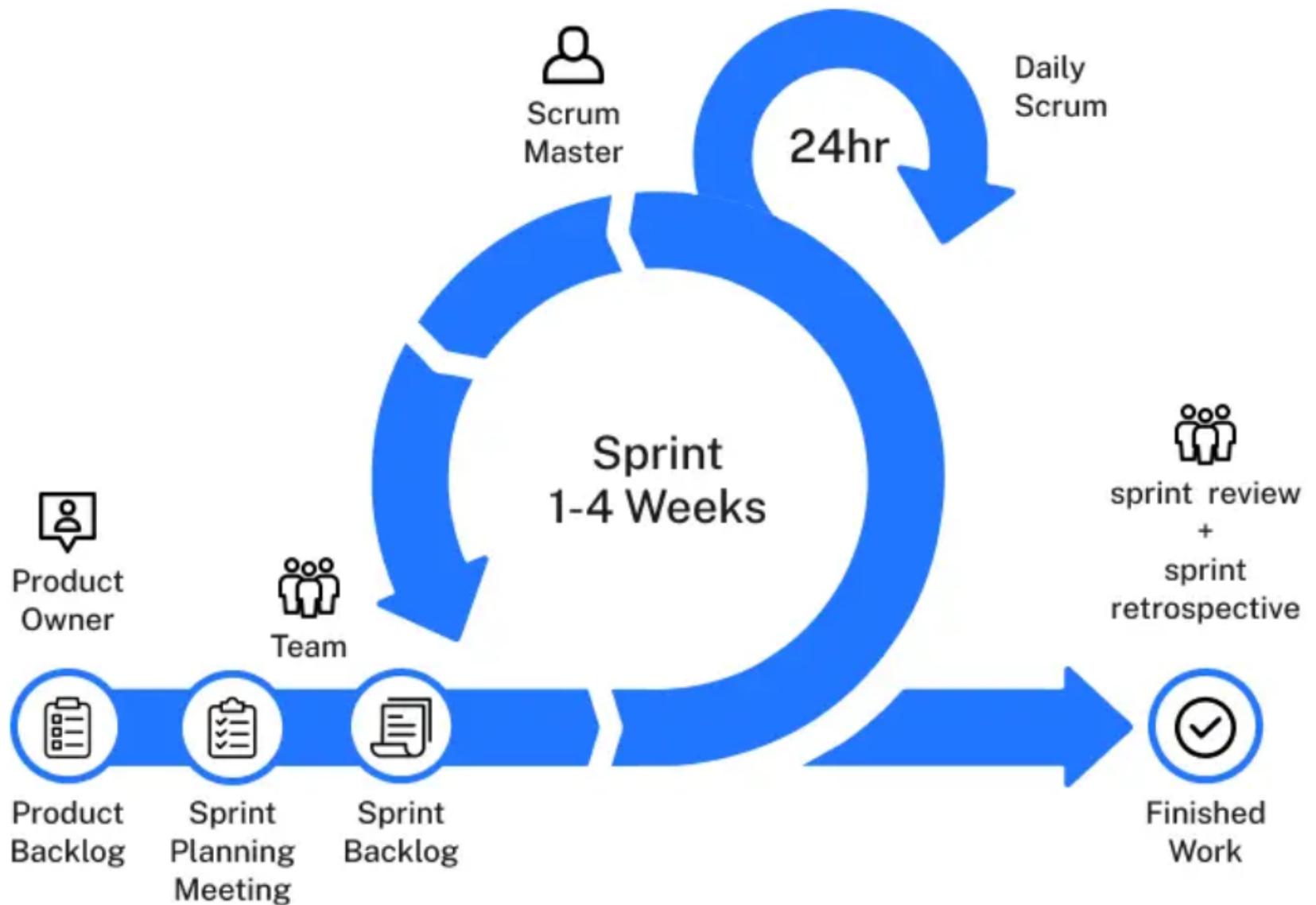


Self-Organizing
Teams



Reflection &
Improvement

Scrum



Define Requirements

Product Backlog



Set Goals

Sprint Backlog



Track Progress

Brundown Chart



High-Level Requirements

1. Login Portal Using the API Gateway
2. Tenant Onboarding
3. Service Provider Onboarding
4. Service Request Creation
5. Background Check and Notification
6. Service Provider Behavior Prediction Model



Product Backlog

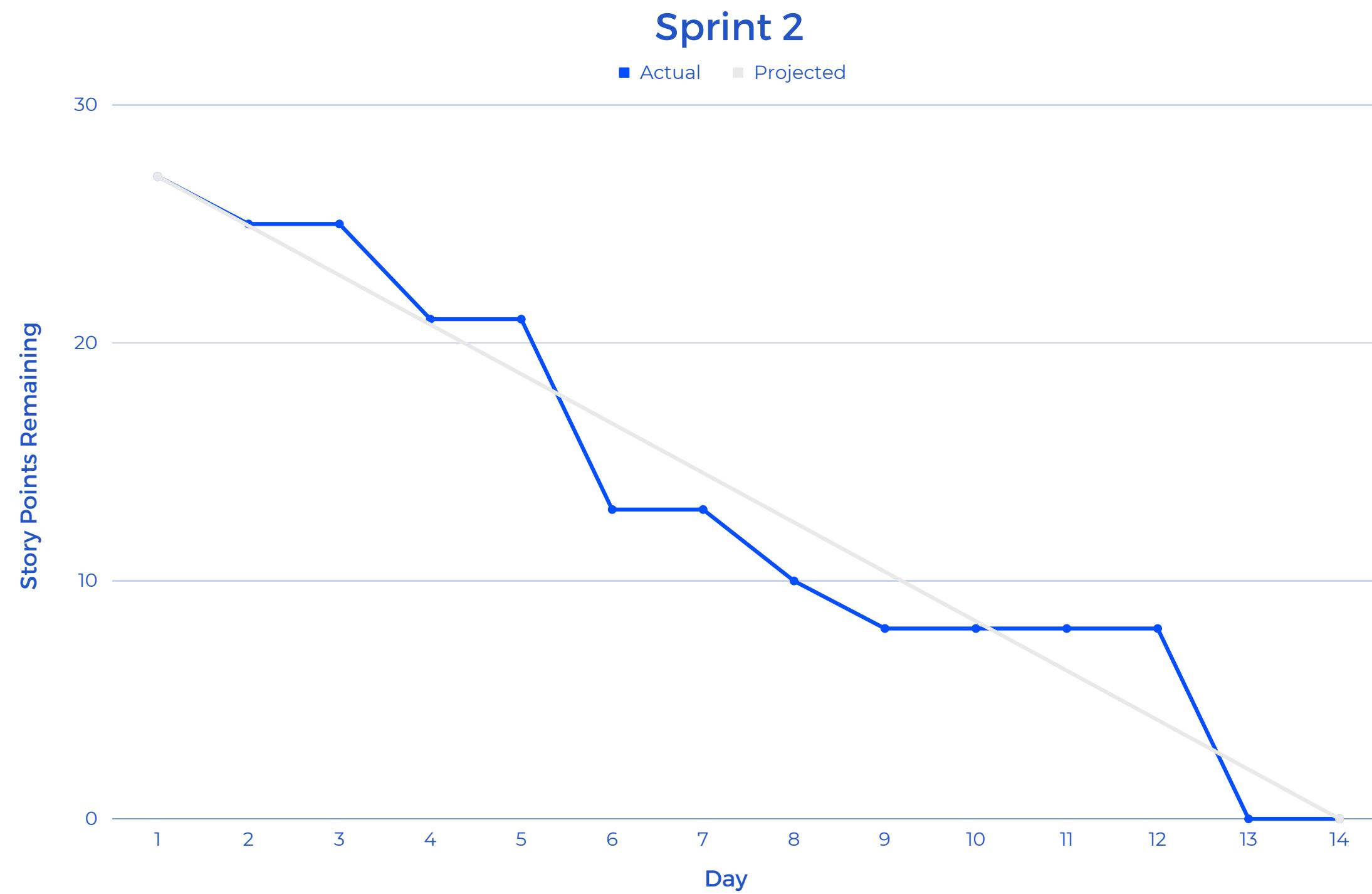
Task Number	Task Name	Resource	Duration	Story Points	Start	Finish	Status
1.0	User Stories			11			
1.1	Identify Key Stakeholders	Project Team		2	06 Sep 2023 1:00PM	06 Sep 2023 2:15PM	Done
1.2	Form Project Team	Project Manager		1	06 Sep 2023 1:00PM	06 Sep 2023 2:15PM	Done
1.3	Project Proposal	Project Team		8	06 Sep 2023 1:00PM	25 Sep 2023 11:59PM	Done
2.0	Product Backlog			4			
2.1	Create Product Backlog	Product Owner		3	13 Sept 2023 1:00PM	30 Sept 2023 12:00PM	Done
2.2	Assign Story Point Estimations	Product Owner		1	27 Sept 2023 1:00PM	1 Oct 2023 12:00PM	Done
3.0	High Level Sprint Planning			3			
3.1	Create Project Plan	Project Manager		3	27 Sept 2023 1:00PM	06 Oct 2023 11:59PM	Done
3.2	Approve Project Plan	Stakeholders		0			Done
4.0	Sprint - 1 - Infrastructure and Learning			4			
4.1	Sprint 1 - Planning Meeting	ALL		0	05 Oct 2023 6:00PM	05 Oct 2023 7:00PM	Done
4.3	Login Gateway Wireframe	Usmaan		2	05 Oct 2023 7:00PM	12 Oct 2023 10:00AM	Done
4.4	Add Property Wireframe	Usmaan		2	05 Oct 2023 7:00PM	12 Oct 2023 10:00AM	Done
5.0	Sprint - 2 - Login with API Portal I			27			
5.1	Sprint 2 - Planning / Sprint 1 Demo	ALL		0	12 Oct 2023 6:00PM	12 Oct 2023 7:00PM	Done
5.2	Develop CI/CD Pipeline - Simple Deployment	QA Engineer		3	05 Oct 2023 7:00PM	16 Oct 2023 7:30PM	Done
5.3	Homeowner/Manager Create Account	Lead Programmer		8	18 Oct 2023 12:00PM	25 Oct 2023 12:00PM	Done
5.4	Homeowner/Manager Login	Technical Lead		5	12 Oct 2023 6:00PM	18 Oct 2023 12:00PM	Done
5.6	Prototype - Create Account/Login	Product Owner		1	12 Oct 2023 6:00PM	13 Oct 2023 12:00PM	Done
5.7	Prototype - Add Property	Product Owner		1	13 Oct 2023 12:00PM	13 Oct 2023 6:00PM	Done
5.8	Prototype - Invite Tenant	Product Owner		1	13 Oct 2023 6:00PM	16 Oct 2023 6:00PM	Done
5.9	Prototype - Invite Service Provider	Lead Designer		1	12 Oct 2023 6:00PM	21 Oct 2023 12:00PM	Done
5.10	Prototype - Create Service Request	Lead Designer		1	12 Oct 2023 6:00PM	21 Oct 2023 12:00PM	Done
5.11	Research Testing Requirements and Tools	DevSecOps		3	16 Oct 2023 12:00PM	20 Oct 2023 12:00PM	Done
5.12	Research and Select Tech Stack	Technical Lead		3	12 Oct 2023 6:00PM	18 Oct 2023 2:00PM	Done
6.0	Sprint - 3 - Login with API Portal II			38			
6.1	Sprint 3 - Planning / Sprint 2 Demo	ALL		0	26 Oct 2023 6:30PM	26 Oct 2023 7:30PM	Done
6.1.1	Sprint 2 Retrospective	Project Team		0	26 Oct 2023 7:30PM	26 Oct 2023 8:00PM	Done
6.2	Protect Routes	Technical Lead		5	26 Oct 2023 7:30PM	27 Oct 2023 12:00PM	In Progress
6.3	CI/CD Pipeline - Promotion of Environments	QA Engineer		8	26 Oct 2023 7:30PM		In Progress
6.4	Implement Unit Testing Framework	QA Engineer		5	26 Oct 2023 7:30PM		Not Started
6.5	CI/CD Pipeline - Implement Security Scans	QA Engineer/DevSecOps		3			
6.6	Homeowner - Dashboard Skeleton	Lead Developer		3	26 Oct 2023 7:30PM	3 Nov 2023 12:00PM	Done
6.7	Homeowner/Manager Logout	Lead Developer		1			Not Started
6.8	Identify Abuse Cases	DevSecOps		2	1 Nov 2023 12:00PM	8 Nov 2023 12:00PM	Done
6.9	Threat Modelling	DevSecOps/Lead Design		3	1 Nov 2023 12:00PM	8 Nov 2023 12:00PM	Done
6.1	Homeowner - Verify Phone Number	Project Lead		2	26 Oct 2023 7:30PM	1 Nov 2023 12:30PM	Done
6.1	Select Account Role	Project Lead		1	30 Oct 2023 12:00PM	1 Nov 2023 12:30PM	Done
6.10	Login API - Testing	QA Engineer		5			Not Started
7.0	Sprint - 4 - Tenant Onboarding I			35			
7.1	Sprint 4 - Planning / Sprint 3 Demo	ALL		0	09 Nov 2023 6:30PM	09 Nov 2023 7:30PM	Not Started
6.7	Homeowner - Add Property	Lead Developer		8			Not Started
6.9	Dashboard - View Properties	Technical Lead		3			Not Started
	Fix Missing XCK in Production Deployment	Unassigned		3			Not Started
	Dashboard - Delete Property	Unassigned		1			Not Started
7.2	Tenant Invitation Wireframe	Unassigned		2			Not Started
7.3	Send Tenant Invitation	Unassigned		5			Not Started
7.4	System Study Review	Project Team		13	13 Nov 2023 1:00PM	13 Nov 2023 2:15PM	Not Started

Task Number	Task Name	Resource	Duration	Story Points	Start	Finish	Status
8.0	Sprint - 5 - Tenant Onboarding II			29			
8.1	Sprint 5 - Planning / Sprint 4 Demo	ALL		0	23 Nov 2023 6:30PM	23 Nov 2023 7:30PM	Not Started
8.2	Homeowner Dashboard - View Tenants	Unassigned		5			Not Started
8.3	Tenant Dashboard	Unassigned		8			Not Started
8.4	Tenant Accept Invitation	Unassigned		3			Not Started
8.5	Tenant Create Account	Unassigned		5			Not Started
8.6	Tenant Login	Unassigned		3			Not Started
8.7	Tenant Onboarding - Testing	Unassigned		5			Not Started
9.0	Sprint - 6 - Service Provider Onboarding I			13			
9.1	Sprint 6 - Planning / Sprint 5 Demo	ALL		0	07 Dec 2023 6:30PM	07 Dec 2023 7:30PM	Not Started
9.2	Invite Service Provider Wireframe	Unassigned		2			Not Started
9.3	Send Service Provider Invite	Unassigned		3			Not Started
9.4	Create Service Provider Account	Unassigned		5			Not Started
9.5	Service Provider Login	Unassigned		3			Not Started
10.0	Sprint - 7 - Service Provider Onboarding II			11			
10.1	Sprint 7 - Planning / Sprint 6 Demo	ALL		0	21 Dec 2023 6:30PM	21 Dec 2023 7:30PM	Not Started
10.2	View My Services	Unassigned		3			Not Started
10.3	Add a Service	Unassigned		3			Not Started
10.4	Service Provider Onboarding - Testing	Unassigned		5			Not Started
11.0	Sprint - 8 - Service Request Creation I			26			
11.1	Sprint 8 - Planning / Sprint 7 Demo	ALL		0	04 Jan 2024 6:30PM	05 Jan 2024 7:30PM	Not Started
11.2	Create Service Request Wireframe	Unassigned		3			Not Started
11.3	Create Service Request	Unassigned		3			Not Started
11.4	Request Quote	Unassigned		2			Not Started
11.5	View Service Requests	Unassigned		3			Not Started
11.6	View Service Request Details	Unassigned		2			Not Started
11.7	Detailed Design Review	Unassigned		13		08 Jan 2024 11:59PM	Not Started
12.0	Sprint - 9 - Service Request Creation II			21			
12.1	Sprint 9 - Planning / Sprint 8 Demo	ALL		0	18 Jan 2024 6:30PM	18 Jan 2024 7:30PM	Not Started
12.2	Send Proposal	Unassigned		2			Not Started
12.3	View Proposed Quotes	Unassigned		3			Not Started
12.4	View Proposed Quote Details	Unassigned		2			Not Started
12.5	Approve Proposed Quote	Unassigned		2			Not Started
12.6	Proposal Notification	Unassigned		2			Not Started
12.7	Proposal Approval Notification	Unassigned		2			Not Started
12.8	Service Request - Testing	Unassigned		8			Not Started
13.0	Sprint - 10 - Background Check I			26			
13.1	Sprint 10 - Planning / Sprint 9 Demo	ALL		0	01 Feb 2024 6:30PM	01 Feb 2024 7:30PM	Not Started
13.2	Background Check Wireframe	Unassigned		2			Not Started
13.3	Apply for Public Service Provider	Unassigned		3			Not Started
13.4	Send Certn Background Check Request	Unassigned		5			Not Started
13.5	View Status of Background Check	Unassigned		3			Not Started
13.6	Port Homeowner Features to React Native	Unassigned		13			Not Started
14.0	Sprint - 11 - Background Check II			16			
14.1	Sprint 11 - Planning / Sprint 10 Demo	ALL		0	15 Feb 2024 6:30PM	15 Feb 2024 7:30PM	Not Started
14.2	Process Completed Background Check from Certn	Unassigned		8			Not Started
14.3	Grant Public Service Provider Status	Unassigned		3			Not Started

Sprint Backlog

Task Number	Task Name	Resource	Duration	Story Points	Start	Finish	Status
6.0	Sprint - 3 - Login with API Portal II			38			
6.1	Sprint 3 - Planning / Sprint 2 Demo	ALL		0	26 Oct 2023 6:30PM	26 Oct 2023 7:30PM	Done
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Burndown Chart



Why Agile?

Iterative

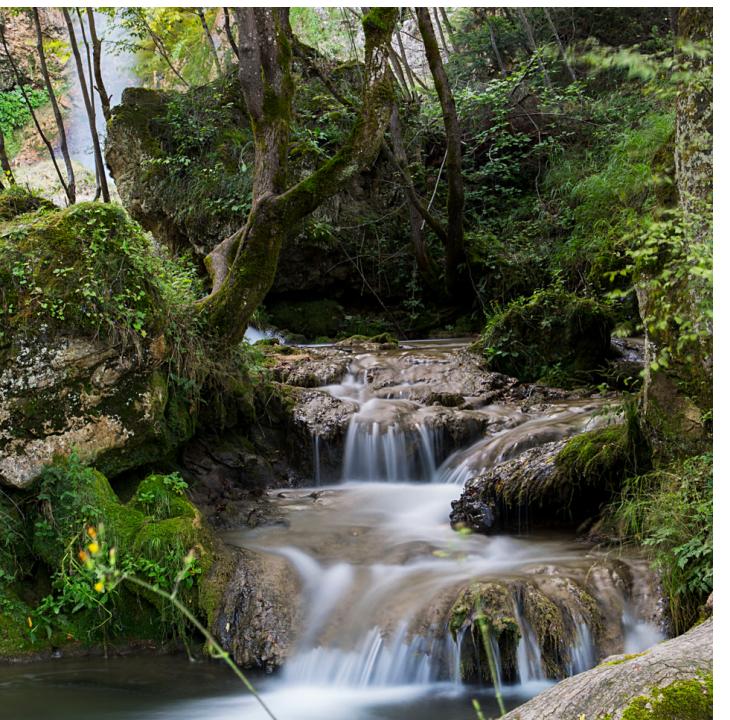
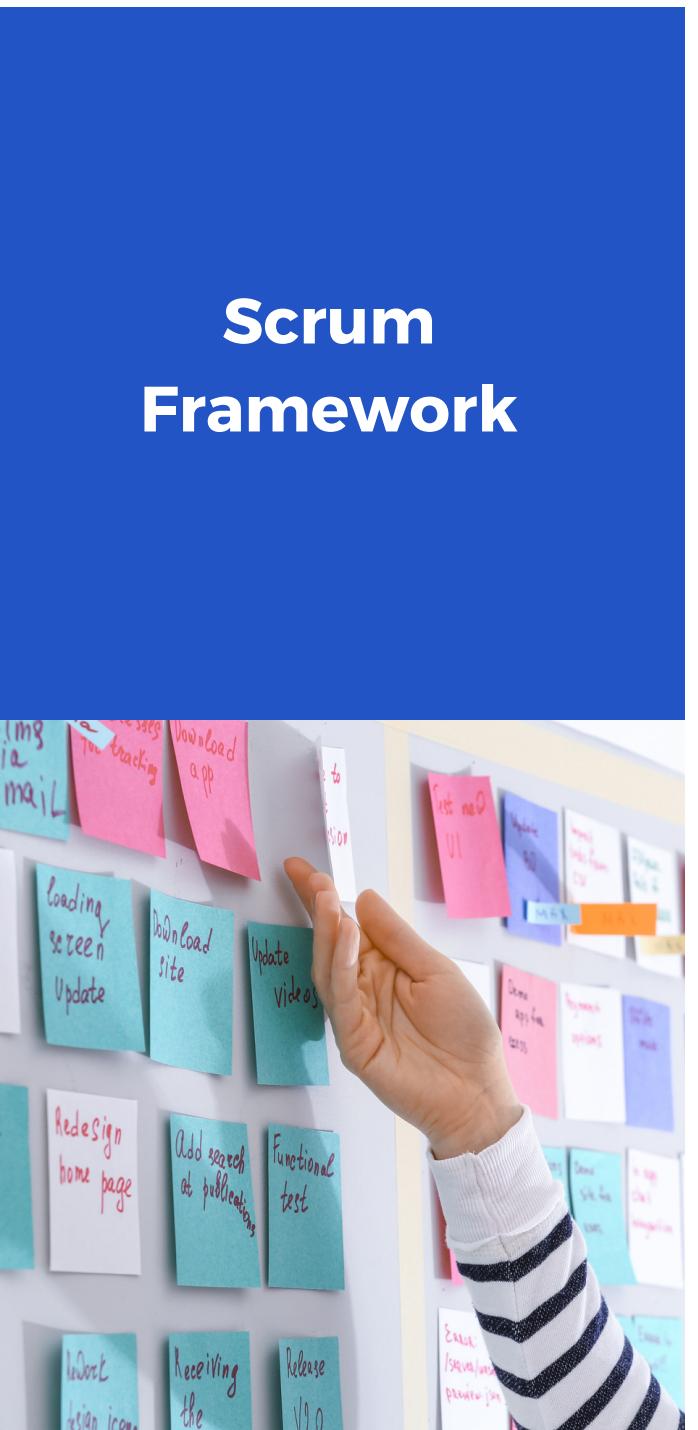
Early feedback

Continuous testing

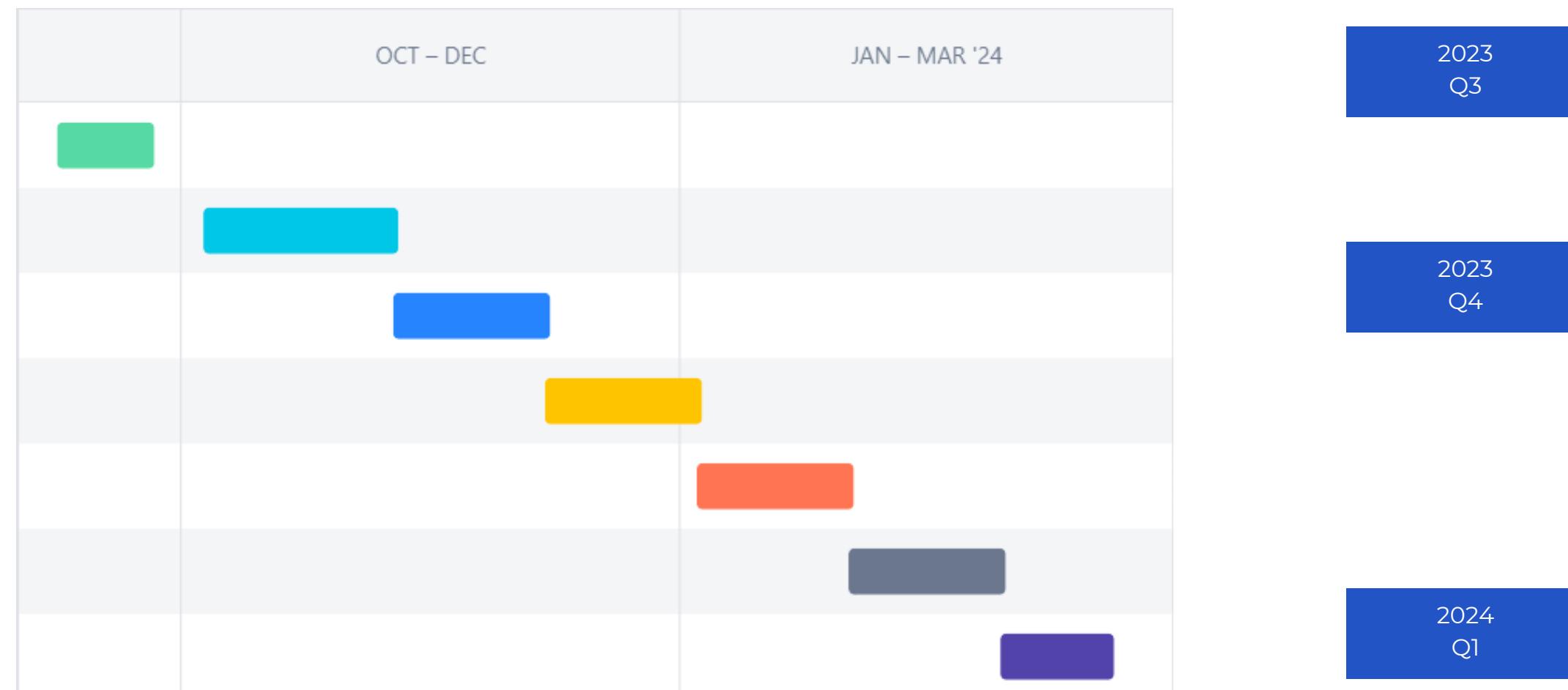
Hands-on Learning

Address Uncertainty

Early Feedback & Testing = Improved Quality



Timeline



Project Proposal

Infrastructure

CI/CD Pipeline

Login and Account Creation

User Onboarding

Services

Tentative timeline. More sprints will be added/updated based on stakeholder feedback, as development continues.

Progress

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5.10	Prototype - Create Service Request	Lead Designer		1	12 Oct 2023 6:00PM	21 Oct 2023 12:00PM	Done
5.11	Research Testing Requirements and Tools	DevSecOps		3	16 Oct 2023 12:00PM	20 Oct 2023 12:00PM	Done
5.12	Research and Select Tech Stack	Technical Lead		3	12 Oct 2023 6:00PM	18 Oct 2023 2:00PM	Done

Progress

6.0 Sprint - 3 - Login with API Portal II				37			
6.1	Sprint 3 - Planning / Sprint 2 Demo	ALL		0	26 Oct 2023 6:30PM	26 Oct 2023 7:30PM	Done
6.1.1	Sprint 2 Retrospective	Project Team		0	26 Oct 2023 7:30PM	26 Oct 2023 8:00PM	Done
6.2	Protect Routes	Technical Lead		5	26 Oct 2023 7:30PM	27 Oct 2023 12:00PM	Done
6.3	CI/CD Pipeline - Promotion of Environments	QA Engineer		8	26 Oct 2023 7:30PM	6 Nov 2023 12:00PM	Done
6.4	Implement Unit Testing Framework	QA Engineer		5	26 Oct 2023 7:30PM		In Progress
6.5	CI/CD Pipeline - Implement Security Scans	QA Engineer/DevSecOps		3	26 Oct 2023 7:30PM	31 Oct 2023 12:00PM	Done
6.6	Homeowner - Dashboard Skeleton	Lead Developer		3	26 Oct 2023 7:30PM	3 Nov 2023 12:00PM	Done
6.8	Identify Abuse Cases	DevSecOps		2	1 Nov 2023 12:00PM	8 Nov 2023 12:00PM	Done
6.9	Threat Modelling	DevSecOps/Lead Design		3	1 Nov 2023 12:00PM	8 Nov 2023 12:00PM	Done
6.1	Homeowner - Verify Phone Number	Project Lead		2	26 Oct 2023 7:30PM	1 Nov 2023 12:30PM	Done
6.1	Select Account Role	Project Lead		1	30 Oct 2023 12:00PM	1 Nov 2023 12:30PM	Done
6.10	Login API - Testing	QA Engineer		5			In Progress
7.0 Sprint - 4 - Tenant Onboarding I				38			
7.1	Sprint 4 - Planning / Sprint 3 Demo	ALL		0	09 Nov 2023 6:30PM	09 Nov 2023 7:30PM	Not Started
7.2	Homeowner - Add Property	Lead Developer		8			Not Started
7.3	Dashboard - View Properties	Technical Lead		3			Not Started
7.4	Fix Missing XCK in Production Deployment	Unassigned		3			Not Started
7.5	Protect Routes for SetRole, Phone Verification	Unassigned		3			Not Started
7.6	Dashboard - Delete Property	Unassigned		1			Not Started
7.7	Tenant Invitation Wireframe	Unassigned		2			Not Started
7.8	Send Tenant Invitation	Unassigned		5			Not Started
7.9	System Study Review	Project Team		13	13 Nov 2023 1:00PM	13 Nov 2023 2:15PM	Not Started
7.10	Implement Penetration Testing Plan	DevSecOps/QA Engineer		5			Not Started

Progress

7.0 Sprint - 4 - Tenant Onboarding I				38			
7.1	Sprint 4 - Planning / Sprint 3 Demo	ALL		0	09 Nov 2023 6:30PM	09 Nov 2023 7:30PM	Not Started
7.2	Homeowner - Add Property	Lead Developer		8			Not Started
7.3	Dashboard - View Properties	Technical Lead		3			Not Started
7.4	Fix Missing XCK in Production Deployment	Unassigned		3			Not Started
7.5	Protect Routes for SetRole, Phone Verification	Unassigned		3			Not Started
7.6	Dashboard - Delete Property	Unassigned		1			Not Started
7.7	Tenant Invitation Wireframe	Unassigned		2			Not Started
7.8	Send Tenant Invitation	Unassigned		5			Not Started
7.9	System Study Review	Project Team		13	13 Nov 2023 1:00PM	13 Nov 2023 2:15PM	Not Started
7.10	Implement Penetration Testing Plan	DevSecOps/QA Engineer		5			Not Started
8.0 Sprint - 5 - Tenant Onboarding II				29			
8.1	Sprint 5 - Planning / Sprint 4 Demo	ALL		0	23 Nov 2023 6:30PM	23 Nov 2023 7:30PM	Not Started
8.2	Homeowner Dashboard - View Tenants	Unassigned		5			Not Started
8.3	Tenant Dashboard	Unassigned		8			Not Started
8.4	Tenant Accept Invitation	Unassigned		3			Not Started
8.5	Tenant Create Account	Unassigned		5			Not Started
8.6	Tenant Login	Unassigned		3			Not Started
8.7	Tenant Onboarding - Testing	Unassigned		5			Not Started

Budget & Resources



ACS-4901 - 6 Credit Hour Course

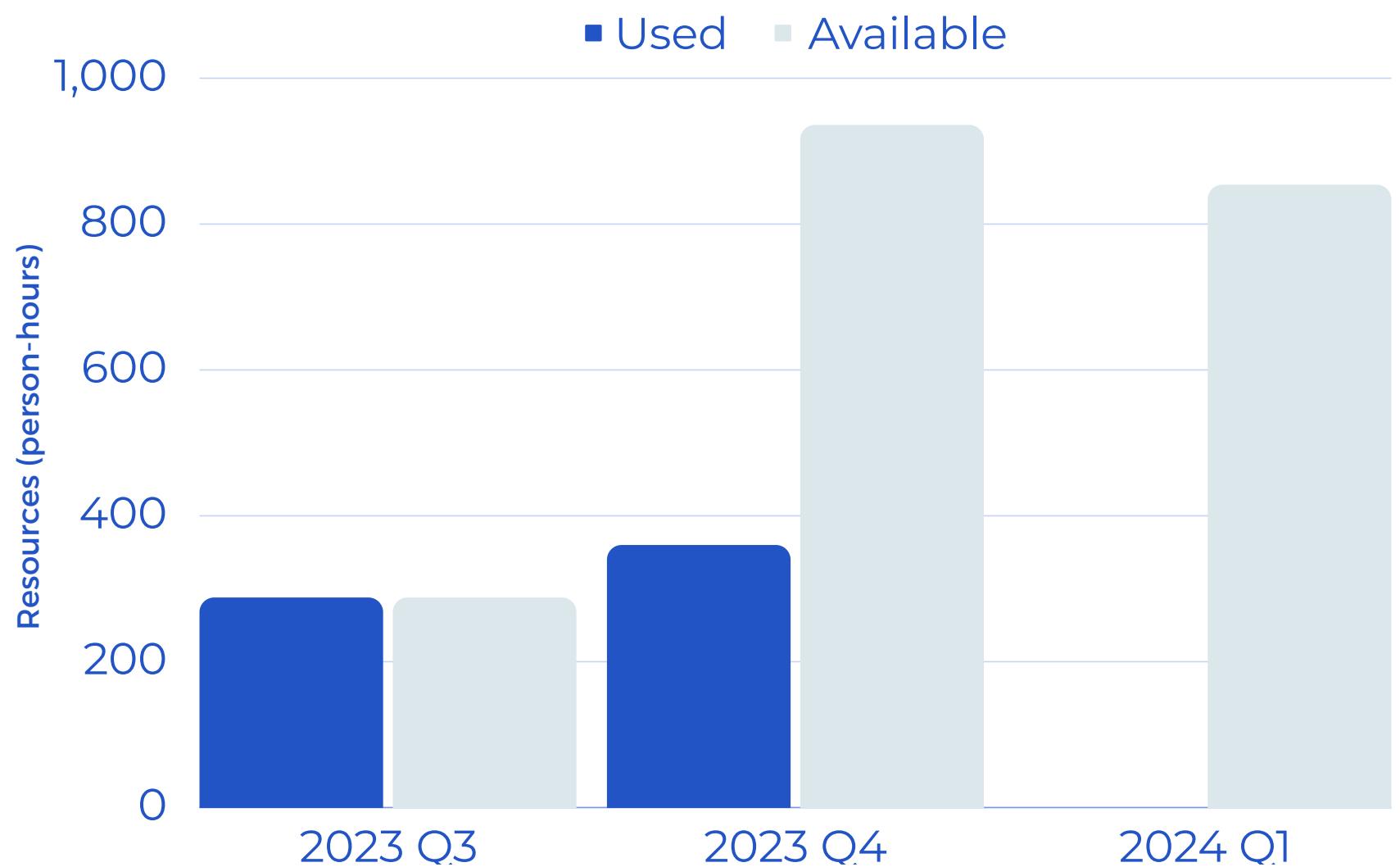
3 hours lecture / week

9 hours study / week

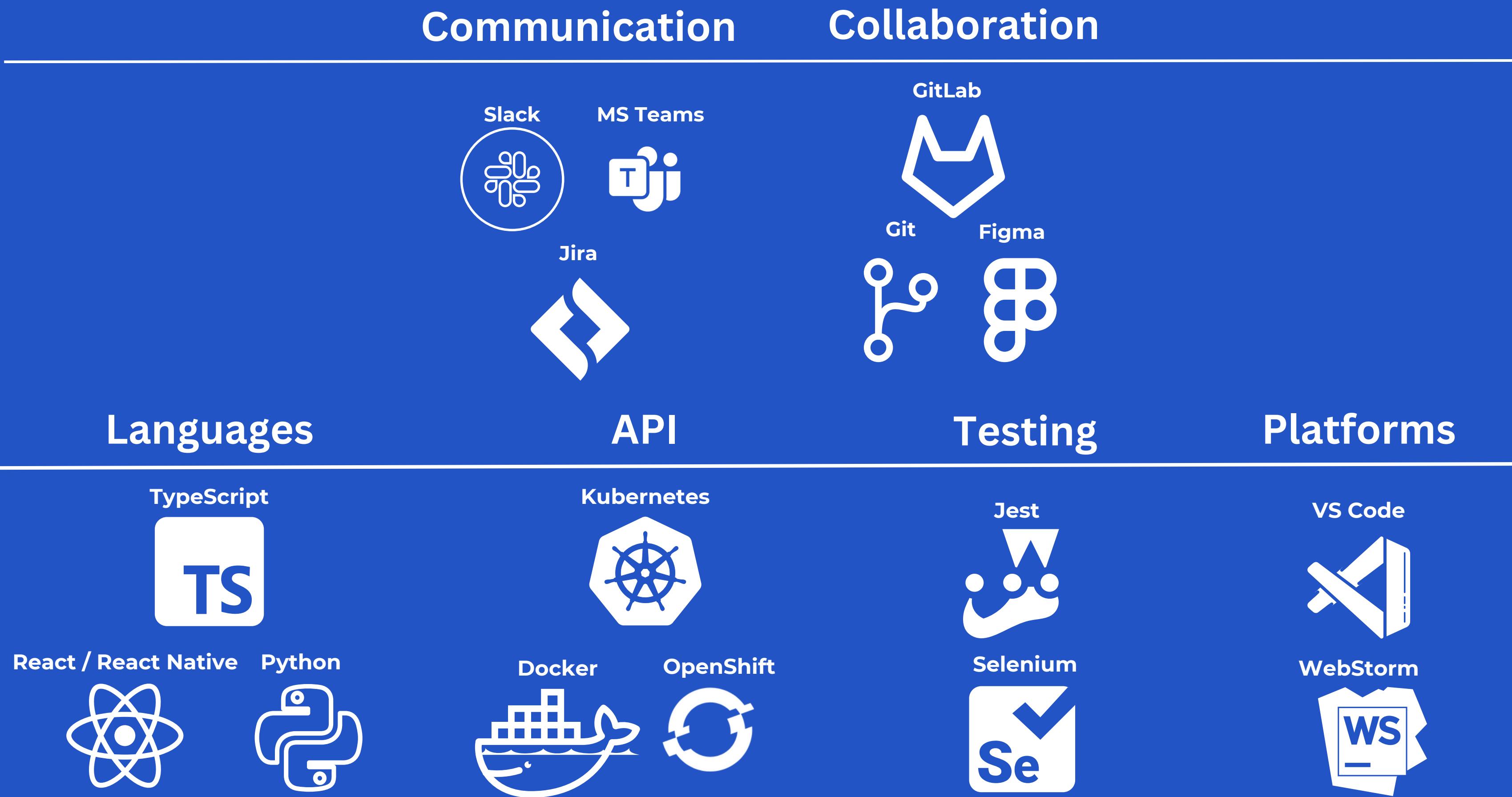
28 weeks total

2088 person-hours total

72 person-hours / week



Tool Selection



Risk Management



Identify

Monitor and assess

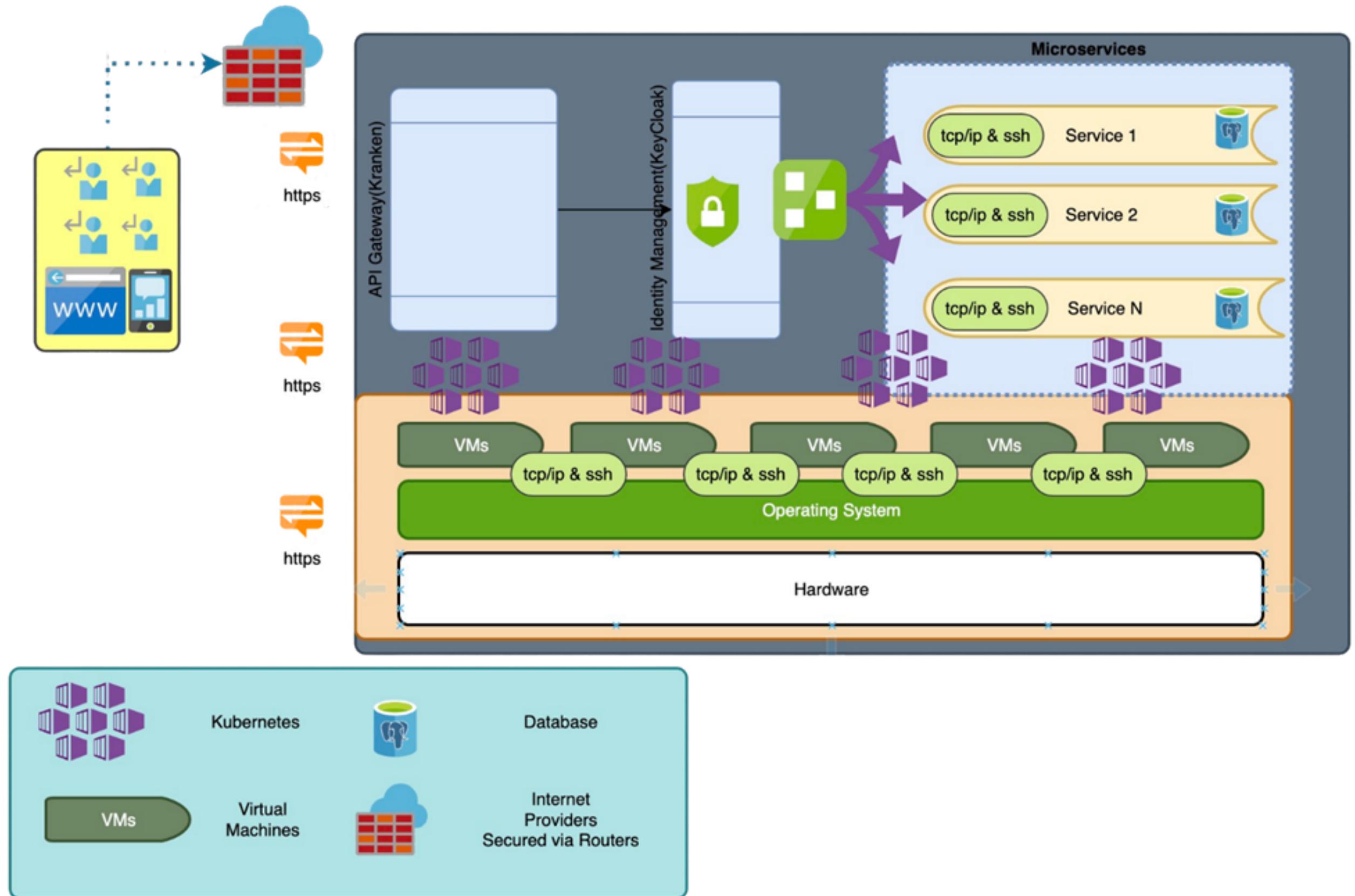
Mitigate

Risk	Monitoring	Assessment	Mitigation
Technical Challenges	Monitor development progress and track integrated system performance	Review technical task status and assess task completion against schedule	Schedule extra time for troubleshooting, engage HomeTrumpeter's technical team, conduct thorough testing
Scope Creep	Monitor project progress and review product backlog	Assess requirement changes and review stakeholder feature requests	Implement formal change request process, prioritize new requests for future sprints
Resource Constraints	Monitor team workloads and track external dependencies	Evaluate resource impact on timelines	Manage commitments, reallocate tasks as needed, communicate with stakeholders about external delays
Security Vulnerabilities	Conduct security assessments and review security measures	Identify and evaluate security vulnerabilities	Perform regular security testing and code reviews, use automated security checks in CI/CD, penetration testing, implement strong authentication measures

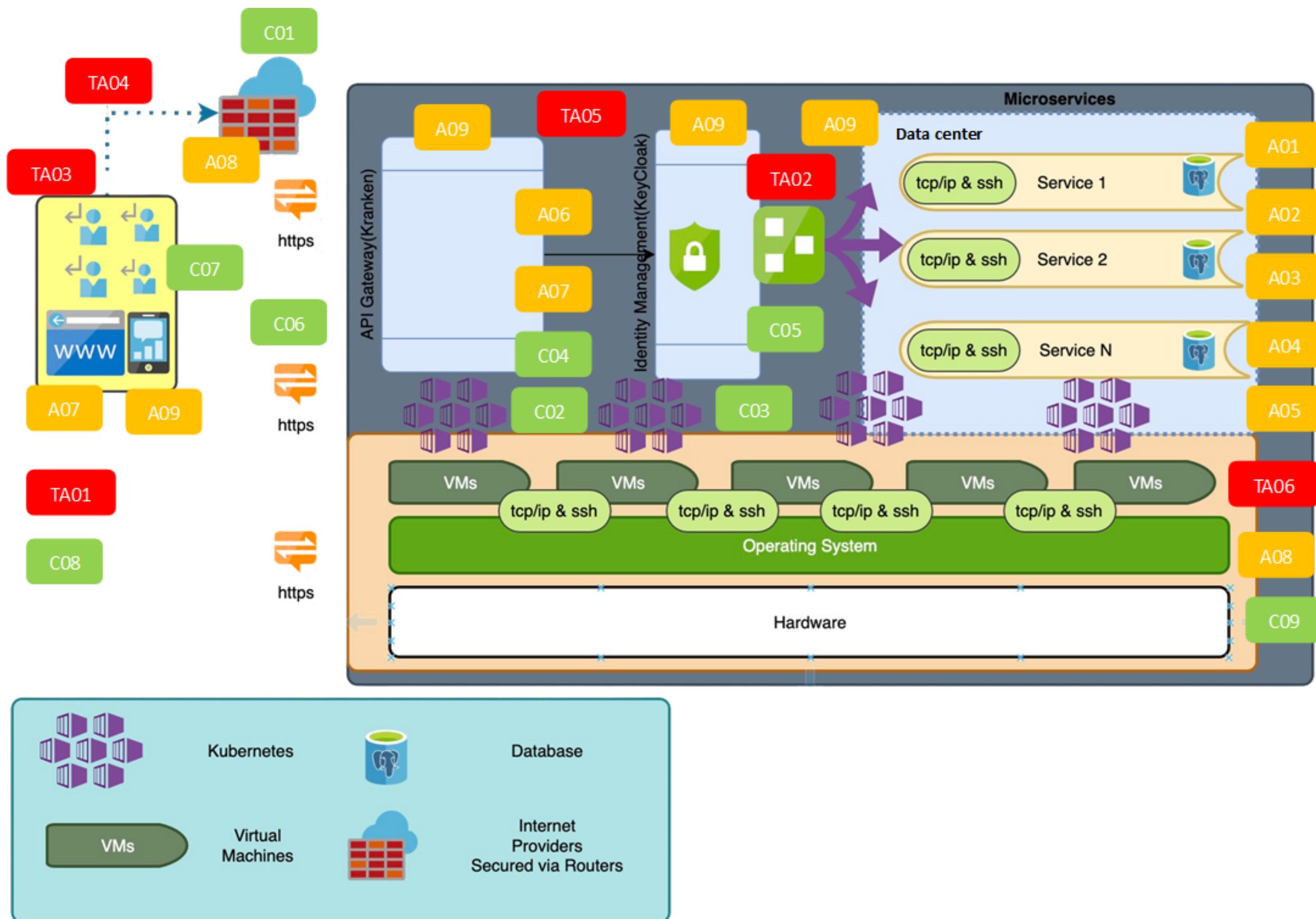
External Dependencies	Track availability and performance of external services	Assess impact of external service disruptions or changes	Develop contingency plans, implement fallback mechanisms, maintain communication with third-party providers
Scope Uncertainty	Seek clarification from HomeTrumpeter and stakeholders	Evaluate gaps in stakeholder requirements	Maintain open communication with HomeTrumpeter, hold regular requirement clarification meetings, document all requirements
Time Management	Monitor sprint progress and review project timeline	Assess task completion within timeframes	Adjust sprint planning, allocate additional time as needed, refine sprint planning process

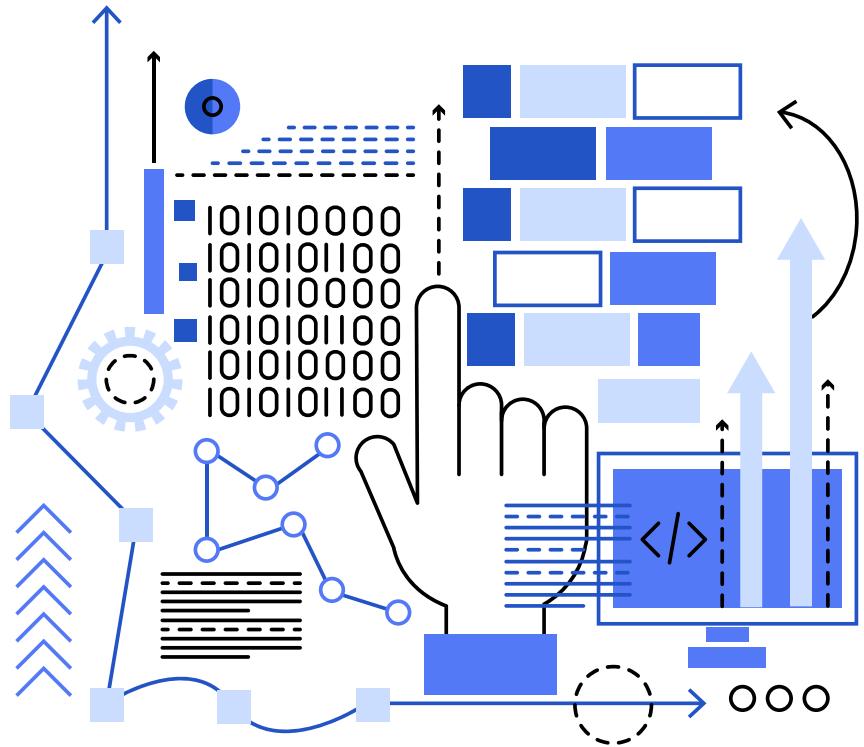


System Architecture



Threat Model



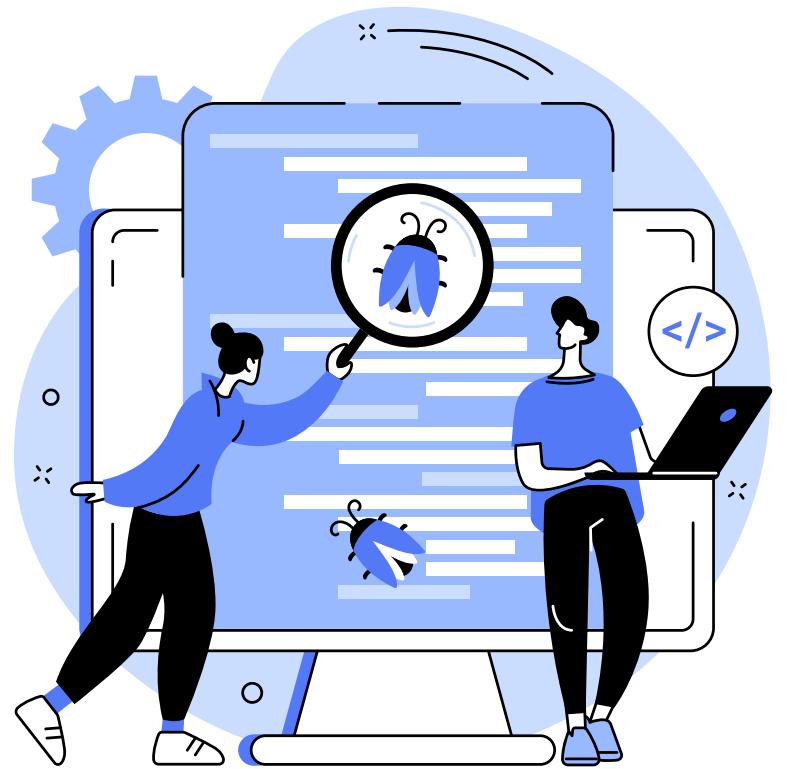


Assets

- A01: Homeowner Data
- A02: Tenant Data
- A03: Property Details
- A04: Tickets and Tasks Details
- A05: Payment Details and History
- A06: Credentials
- A07: Sensitive Application Data
- A08: Infrastructure
- A09: Applications

Threat Agents

- TA01: Unauthorized External Users
- TA02: Unauthorized Internal Users
- TA03: Authorized Homeowners, Tenants, and Service Providers with Malicious Intent
- TA04: Man-in-the-Middle Attackers
- TA05: API Attackers
- TA06: Viruses, Worms, Ransomware, etc.



Controls

- C01: Network Security
- C02: Container Security
- C03: Kubernetes Security
- C04: API Security
- C05: Identity Management
- C06: Encryption
- C07: Regular Patching
- C08: Monitoring and Logging
- C09: User Training

Abuse Use Cases



Use Case #	Asset	Abuse Use Case	Countermeasures
1	Web Application Database	Unauthorized Access to Homeowner and Tenant Data	Implement strong authentication mechanisms, input validation, parameterized queries, sanitize user inputs, use a Web Application Firewall (WAF), conduct regular security audits, ensure strong database authentication, encrypt sensitive data in transit and at rest, regularly patch the web application.
2	Communication Channel	Man-in-the-Middle Attack on Communication Channels	Use strong encryption protocols for data in transit, implement HTTPS for all communications.
3	API Gateway	API Token Theft via API Vulnerabilities	Implement API rate limiting, use input validation to prevent injection attacks, regularly update and patch the API.
4	Container Infrastructure	Malicious Activities in Containers	Use trusted base images, regularly scan for vulnerabilities, employ runtime security for containers.
5	Kubernetes Configuration	Misconfigurations in Kubernetes	Ensure Kubernetes configurations are secure, regularly update Kubernetes, monitor for vulnerabilities.
6	API Gateway	DDoS Attack on API Gateway	Implement rate limiting, use services like Cloudflare to mitigate DDoS attacks.
7	Identity Management System	Unauthorized Session Access via Identity Management Weaknesses	Use multi-factor authentication, implement session management best practices, auto logout after inactivity.
8	Database	Database Tampering	Encrypt sensitive data in the database, implement strong authentication mechanisms for database access, regularly monitor and audit database activities.

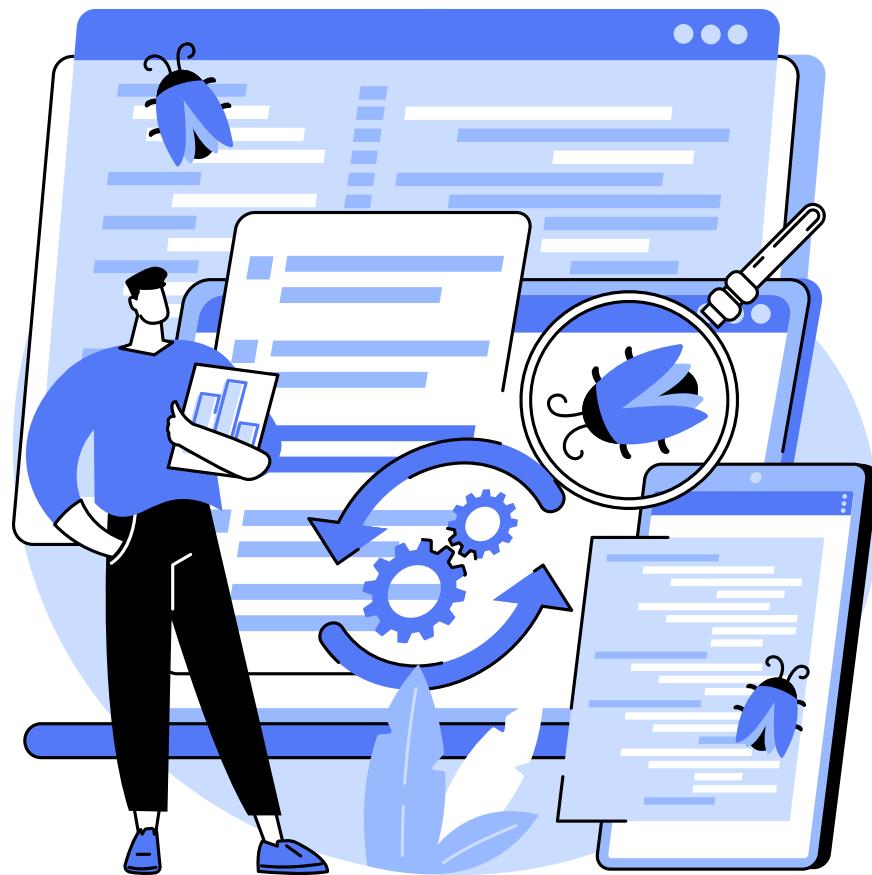
More Security Measures

Penetration Testing Plan

Kali Linux and other
tools



Penetration Testing Plan



Objective	Target System/Component	Tester	Tools/Methodologies Used	Expected Outcome	Kubernetes Security Assessment	Kubernetes Orchestration Platform	Penetration Tester 2	Kubernetes Security Scanners, Manual Testing	Review Kubernetes configurations for security weaknesses and ensure proper access controls and network policies.
API Security Assessment	HomeTrumpeter API Gateway	Penetration Tester 1	OWASP API Security Top Ten, Manual Testing, API Scanners	Identify vulnerabilities in API endpoints, test for injection attacks, and assess access controls. Ensure API security compliance (by HT).	Web Application Security Testing	React Web Application	Penetration Tester 3	OWASP Top Ten, Burp Suite, Selenium, Manual Testing	Identify web application vulnerabilities such as XSS, CSRF, and other common web application security issues.
Authentication and Authorization Testing	User Authentication and Authorization System	Penetration Tester 2	Manual Testing, Burp Suite, OAuth testing tools	Test login, access controls, and session management. Identify weaknesses in authentication mechanisms. Verify proper authorization checks.	End-to-End Testing	Entire System Workflow	Penetration Tester 1, 2, 3	Manual Testing, Automation Testing	Verify the security of the end-to-end workflow, ensuring that all components interact securely and that vulnerabilities are not introduced as data flows through the system.
Database Security Assessment	Database Server and Data Storage	Penetration Tester 1	Database Scanners, Manual Testing, SQL Injection Testing	Test for SQL injection vulnerabilities, data exposure, and unauthorized access. Verify encryption and access controls on data storage.	Threat Modeling Assessment	Entire System Architecture	Penetration Tester 1, 2, 3	Threat Modeling Frameworks, Manual Assessment	Conduct a threat modeling exercise to identify potential threats, assets, and vulnerabilities in the system architecture. Develop recommendations for mitigating identified threats.
Container Security Assessment	Containerized Application Deployment	Penetration Tester 3	Container Scanners, Manual Testing, Docker Security Tools	Assess container security by identifying vulnerabilities, misconfigurations, and weaknesses in container images.	External Dependency Assessment	Third-party Background Check Provider	Penetration Tester 1	Manual Testing, Communication Assessment	Assess the security of interactions with external third-party services. Verify proper authentication and encryption when handling sensitive data.
					Continuous Monitoring Assessment	Ongoing System Health and Security	Penetration Tester 2	Automated Monitoring Tools, Log Analysis	Review ongoing system logs and alerts to detect any unusual or unauthorized activities. Ensure continuous monitoring and response mechanisms are effective.

QA & Testing

Ensuring software reliability, functionality, and security while reducing risks and costs.

A critical role in delivering a high-quality product that meets user expectations and industry standards.



Bug
Prevention

User
Satisfaction

Product
Stability



Testing

Unit and Integration tests

- Jest

Static Code Review

- ESLint

E2E testing

- Selenium

Vulnerability Scanning

- Trivy
- npm audit



Code Review

Documentation is available as a reference for coding standards and code review.

Ensures uniformity in the codebase and enables easy maintenance.



Table of Contents

1. [Basic Rules](#)
2. [Naming](#)
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5. [Quotes](#)
6. [Spacing](#)
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8. [Parentheses](#)
9. [Tags](#)
10. [Methods](#)
11. [Ordering](#)

Naming

- File- and component name need to be identical.
- Use PascalCase naming convention for filename as well as component name, e.g.
GlobalHeader.js

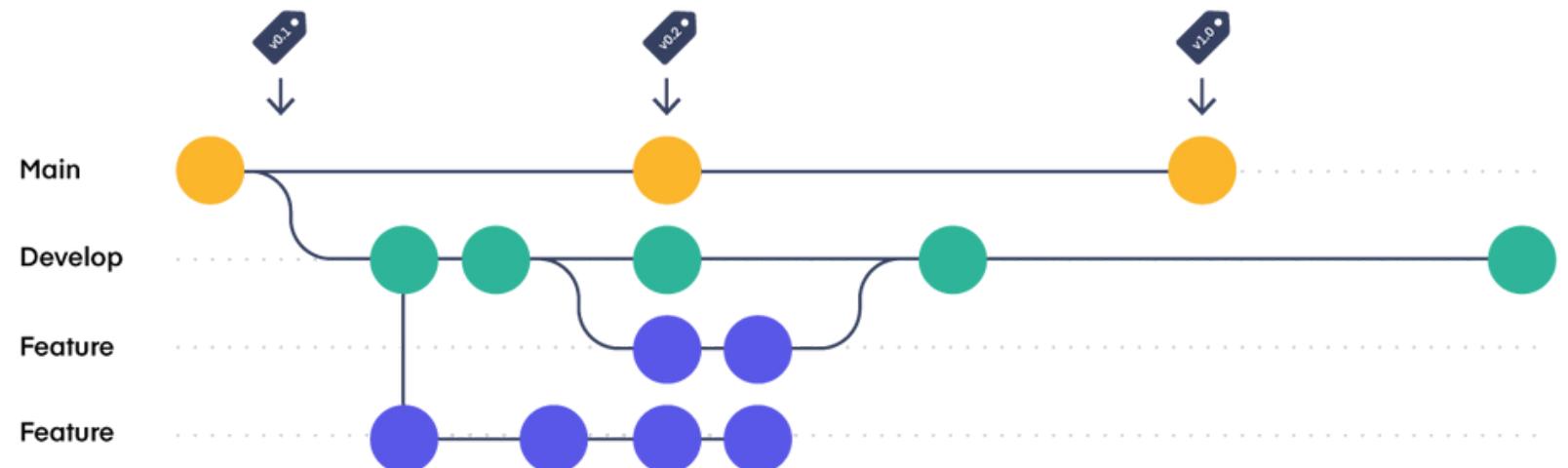
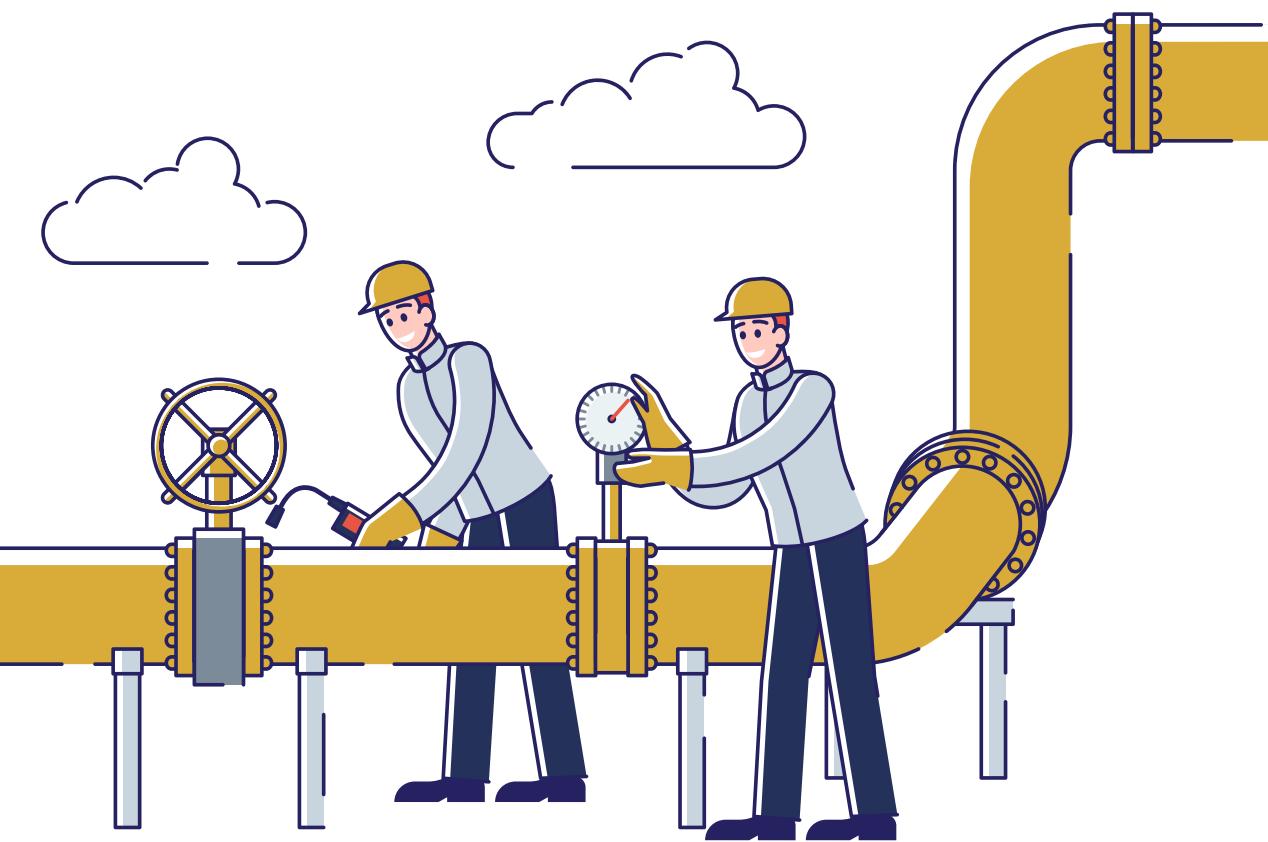
```
// Bad  
// Filename: foo.js  
  
class Foo extends React.Component {}  
  
export default Foo;  
  
// Good  
// Filename: Foo.js  
  
class Foo extends React.Component {}  
  
export default Foo;
```

javascript

CI/CD Pipeline

Infrastructure as Code allows for integration testing.

Automated tests before deployment ensures secure & functional products.



STAGES:

- Commit (Building)
- Review
- Testing
- Deployment

OpenShift

Application Containers



Thank You

We are here to “Prove IT” is possible to develop an API economy to revolutionize property management with a cutting-edge easy-to-use system for property managers, homeowners, tenants, and service providers.



The Ultimate Property Management System