

Lecture 6: November 2

UX Design and Architecture Design

Agenda

- Housekeeping
- Design System
- UX Design
- Architecture Design
- Writing 3
- November Sprint Planning + Alpha Demo

Housekeeping

- Grades available for:
 - Resume Submission
 - Trello - Sprint Commitment and Board Engagement
 - Stand-ups - Participation and Engagement
 - Gantt Chart Submission
- Grades coming soon for:
 - Project Proposal
 - Writing 1
 - Writing 2
- Reminder that [Syllabus](#), [Writing Assignments](#), and other class details are posted on our class website: <https://gw-cs-sd-2022.github.io>

Design Systems

Design System

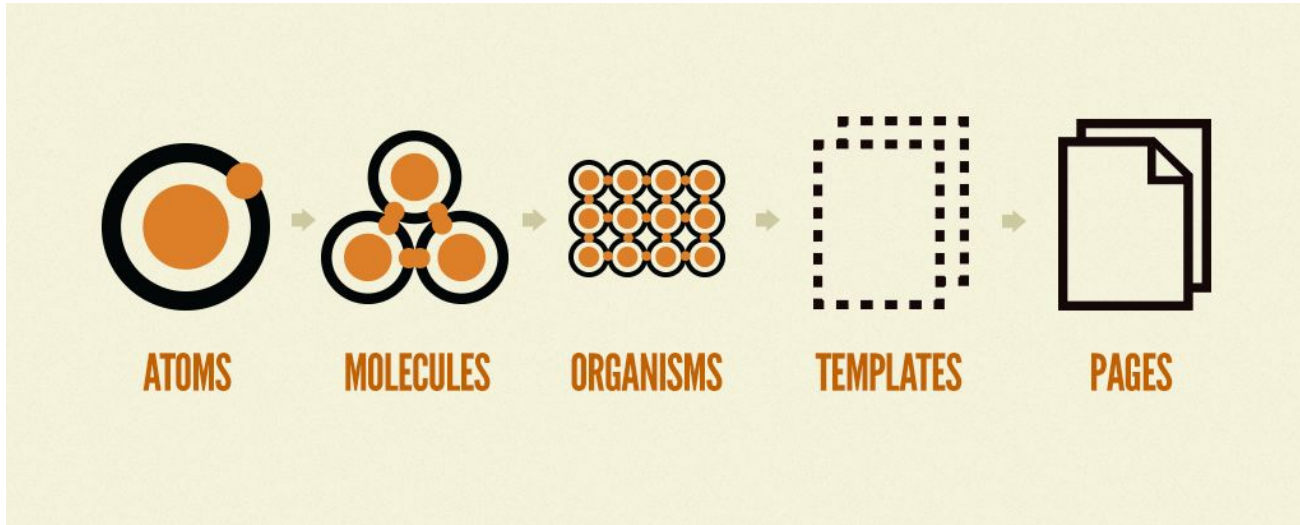
- **What**
 - Set of standards to manage design at scale by creating a shared language using reusable components and patterns
- **Why**
 - Reduces redundancy on Design and Engineering in order to build quicker
 - Creates unified language across cross-functional teams
 - Increases visual consistency across different pages and channels
 - Learning tool for new Designers
- **Atomic Design Theory** has been created to support Design System creation
 - Established by Brad Frost

Design System

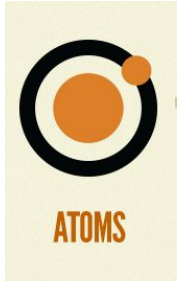
What's included

- **Style guide**
 - Typography, colors, logos, etc
- **Component Library**
 - Reusable UI elements
- **Pattern Library**
 - Similar to Component but more high-level collections of components
- **Design System Team**
 - Team establishing and maintaining the Design System
 - Made of Product Designers, Visual Designers, and Engineers

Atomic Design

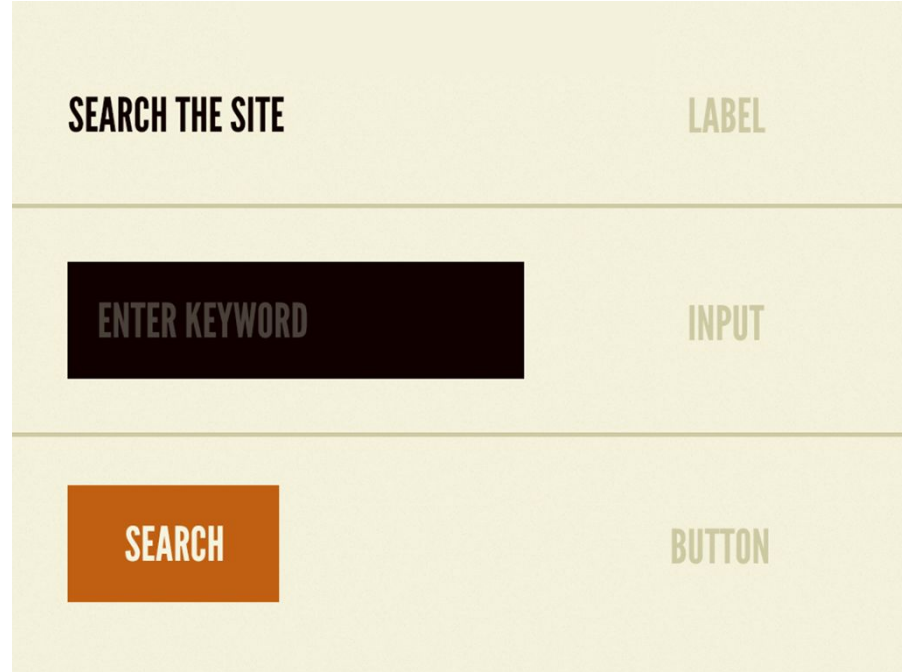


Atomic Design - Atoms

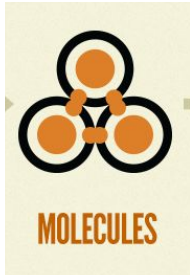


Atoms: Basic HTML Elements

Examples: form labels, inputs, buttons, and others that can't be broken down any further without ceasing to be functional.



Atomic Design - Molecules



Molecules: Combination of Atoms

Examples: form label, search input, and button can join together to create a search form molecule

SEARCH THE SITE

ENTER KEYWORD

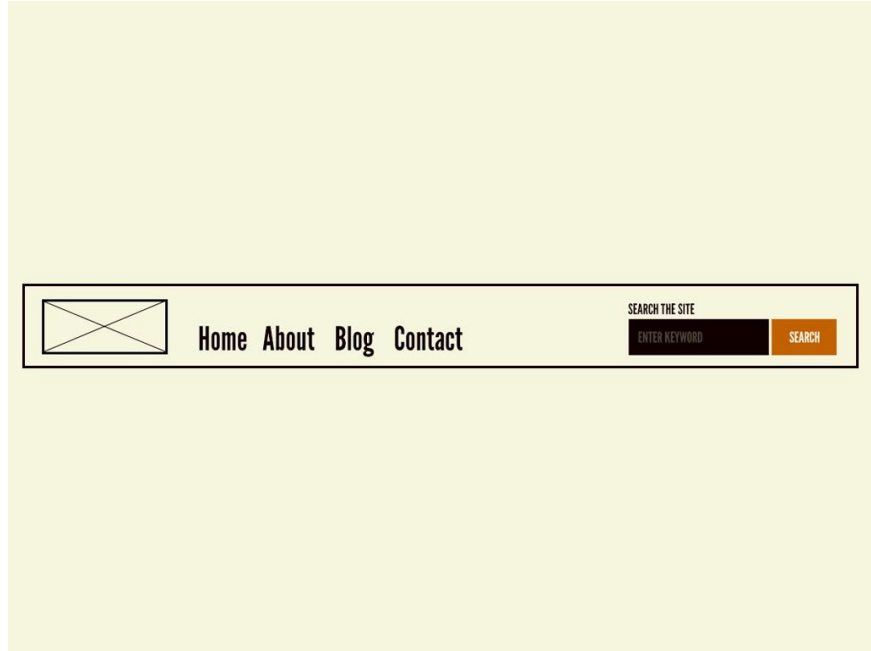
SEARCH

Atomic Design - Organisms



Organisms: complex UI components composed of groups of molecules and/or atoms and/or other organisms

Examples: header navigation, footer navigation, menu panels

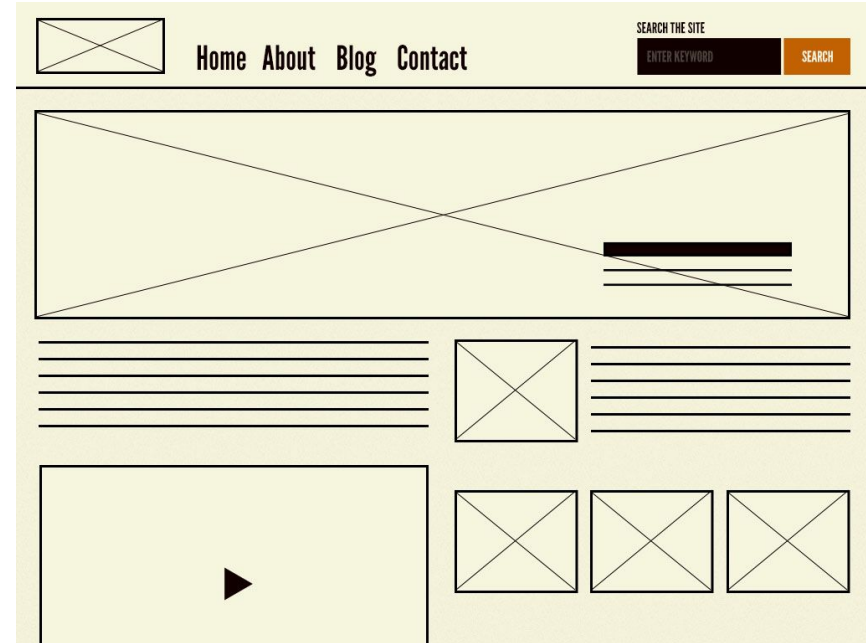


Atomic Design - Templates



Templates: page-level objects that place components into a layout and articulate the design's underlying content structure

Examples: Header combined with visual content with descriptions and action buttons - all laid out in one repeatable space

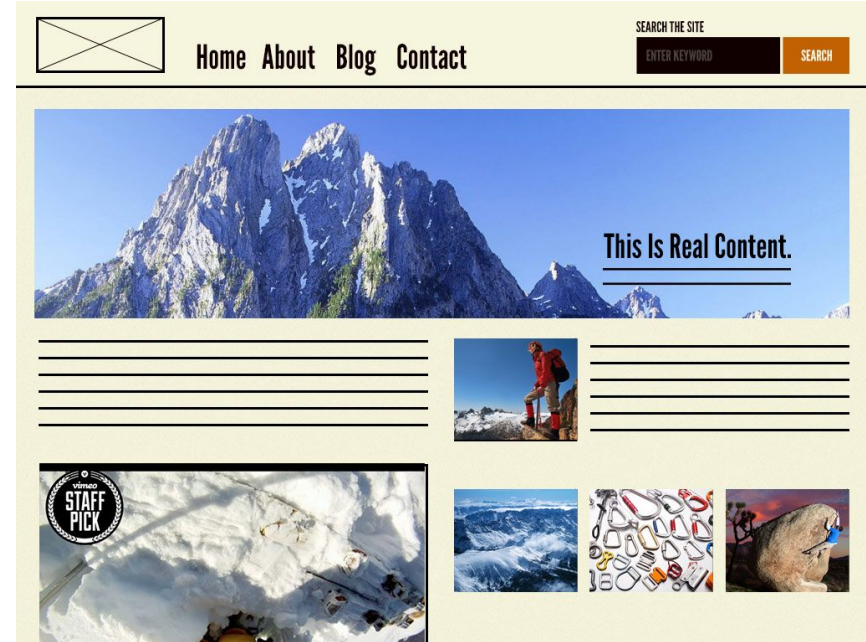


Atomic Design - Pages



Pages: specific instances of templates that show what a UI looks like with real representative content in place

Examples: Home page, Contact Us page, etc



UX Design and Technical Specs

Writing

Section 1: Proposal ...

Executive Summary - Writing 1 

Section 2: Specs...

Technical Summary - Writing 2 

Gantt Chart 

Product Specifications - Writing 3

Technical Specifications - Writing 3

“Putting it all together” ... Technical Design Document - Writing 4

Specifications

Product / Design Specs

- User Stories
- User Flows
- Wireframes/Mockups/API Docs

Technical Specs

- Architecture Diagrams
- Integrated APIs and Frameworks
- Main Algorithms of System

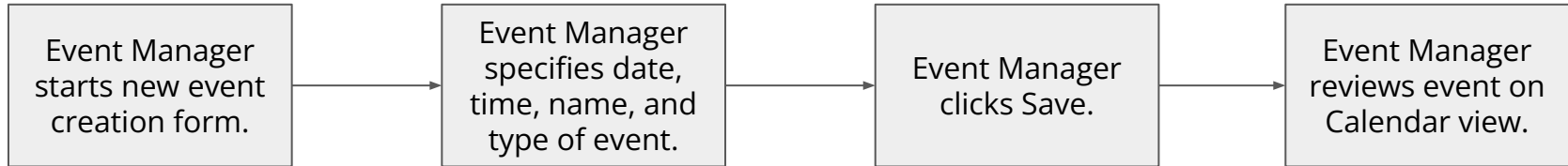
UX Design and User Flows

- Built off of User Stories / Use Cases
- Creates high-level app flow

UX Design

- Built off of User Stories / Use Cases

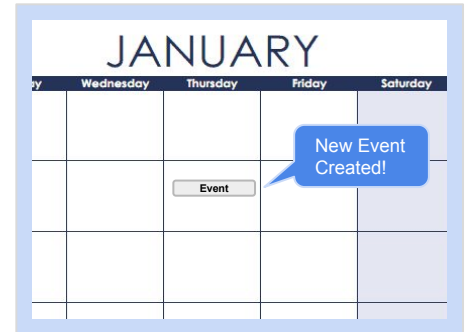
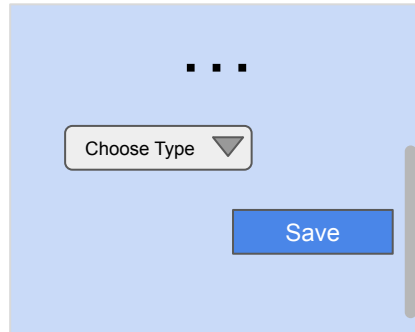
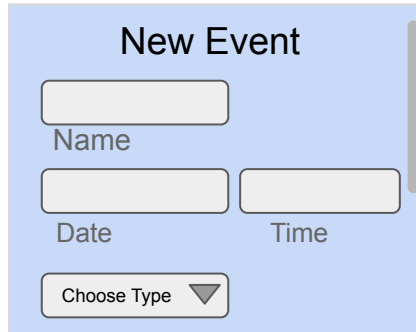
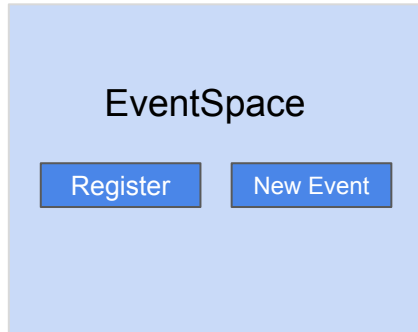
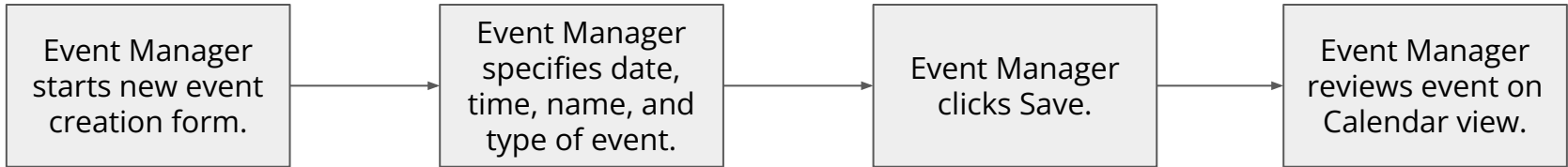
As a Event Manager, I would like to schedule events so that people can see which events are available to register for.



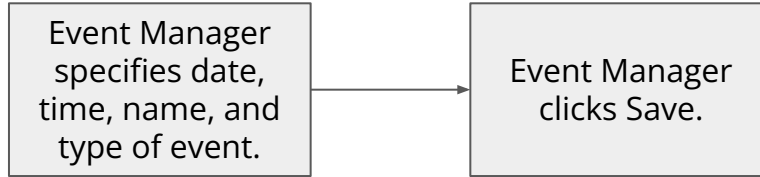
UX Design

- Built off of User Stories / Use Cases

As a Event Manager, I would like to schedule events so that people can see which events are available to register for.



Atomic Design Components



New Event

Name

Date

Time

Choose Type

Save

Date

|YYYY-MM-DD|
< December 2021 >
M T W T F S S
28 29 30 31 1 2 3
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31

Time

4	▲	
5	30	
6	45	
7	00	AM
8	15	PM
9	30	
10	45	
11	00	
12	▼	

✓ ×

Choose Type ▼

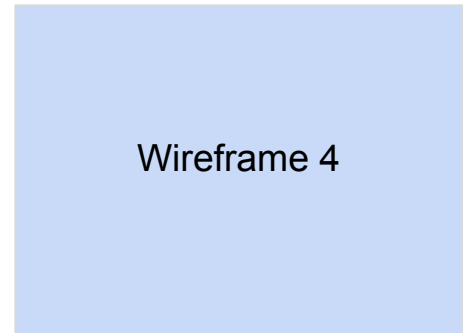
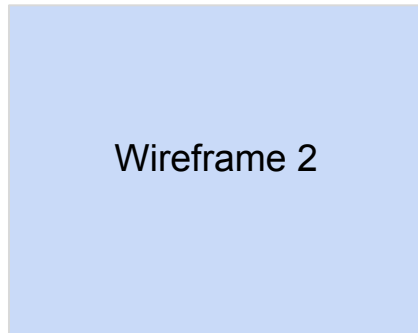
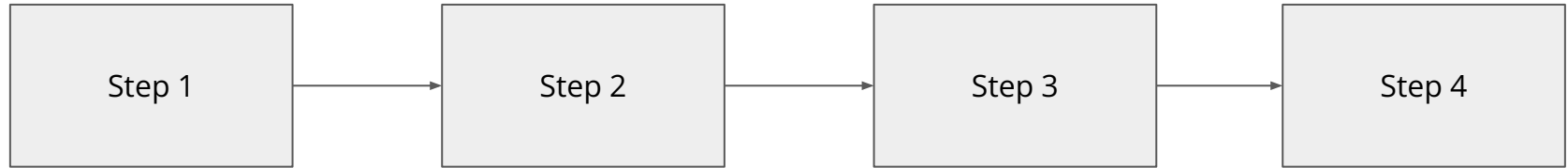
Consult

Check-in

Planning

Product and Design Specifications

As a [persona], I would like to [action] so that [benefit].



UX Design for APIs

As a Event Manager, I would like to schedule events so that people can see which events are available to register for.

Event Manager starts new event creation form.

Event Manager specifies date, time, name, and type of event.

Event Manager clicks Save.

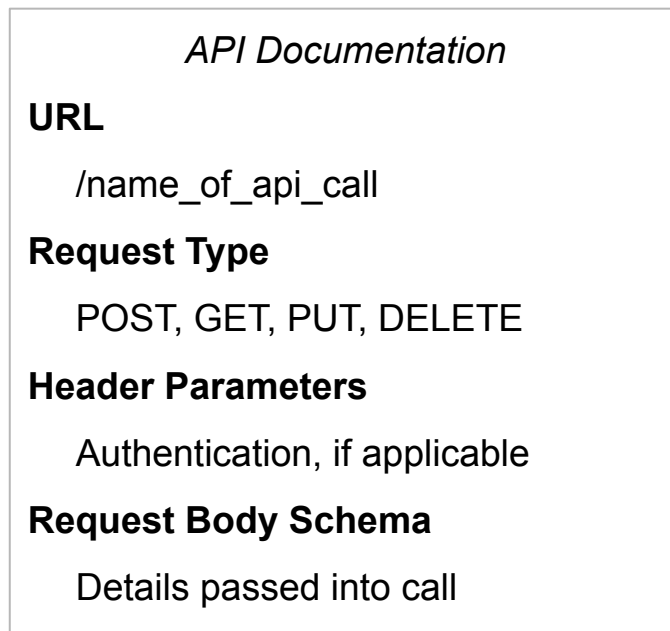
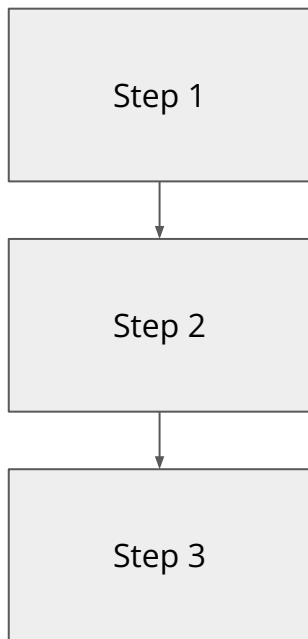
Event Manager reviews event on Calendar view.

```
POST http://eventSpace.api.com/new_event
{
  "name": "Smith Engagement Party Planning",
  "type": "Planning",
  "start": {
    "date": "2015-05-28",
    "time": "09:00:00-07:00"
  },
  "end": {
    "date": "2015-05-28",
    "time": "17:00:00-07:00"
  }
}
```

```
GET http://eventSpace.api.com/calendar_events
```

UX Design for APIs

As a [persona], I would like to [action] so that [benefit].

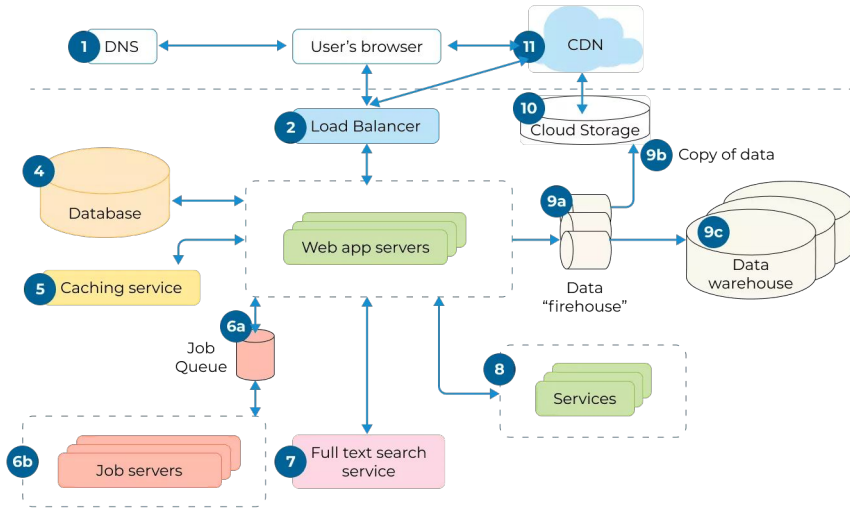


Architecture/System Design

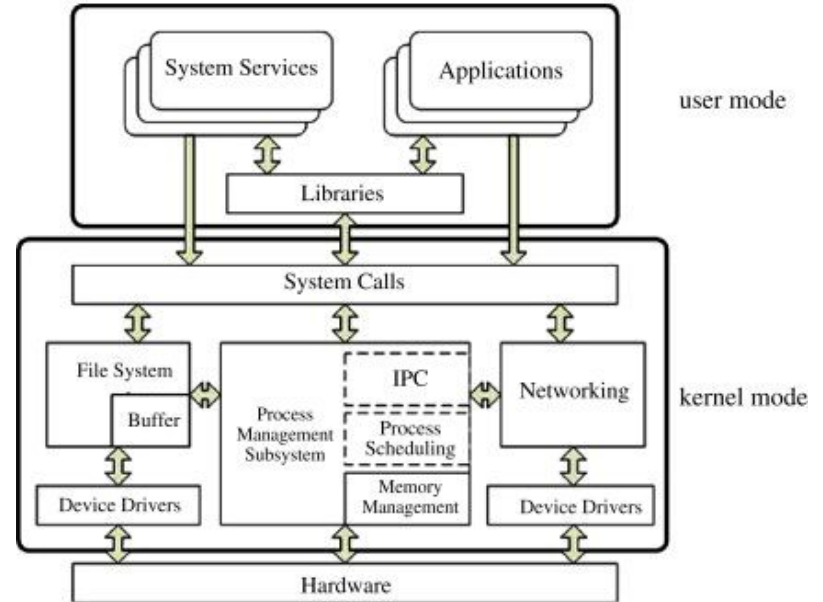
- Diagrams
- Integrated APIs and Frameworks
- Main Algorithms of System

Architecture/System Design

- Diagrams



Web App Architecture



Linux Architecture

Architecture/System Design

- External APIs and Framework details

Twitter API

Goal:

Get all tweets to generate sentiment analysis

Endpoints Used:

GET
/tweet/sentiment/{happy}

Facebook API

Goal:

Understanding most common check-in locations for certain groups

Endpoints Used:

GET
/check-in/{check-in-id}

AWS

Goal:

Serves as a hosting platform for the application to run

Details to note:

- Instance
- Credentials
- Etc.

Architecture/System Design

- Main Algorithms of System

Machine Learning Algorithm

Goal:

Train system on the 10,000 tweets generated by the samplings pulled from Twitter's API

Description:

Detailed description of how this algorithm works within the project

[Name] Algorithm

Goal:

[Purpose of this algorithm for the system]

Description:

Detailed description of how this algorithm works within the project

Writing 3

Product / Design Specs

For Frontend UI projects: [Product and Design Specs Slide](#)

For Developer projects: [UX Design for APIs](#)

- User Stories
- User Flows
- Wireframes/Mockups/API Docs

Technical Specs (eg. [System Design Slide](#))

- Architecture Diagrams
- Integrated APIs and Frameworks
- Main Algorithms of System

Writing 3 - Product and Design Specs

For Frontend UI projects: [Product and Design Specs Slide](#)

For Developer projects: [UX Design for APIs](#)

- User Story 1 [*Bulleted list format*]

User Flows for User Story 1 [*Flow Chart format*]

Wireframes/Mockups/API docs for User Story 1 [*Image or API docs format*]

... repeat for most critical user stories in your project

Writing 3 - Technical Specs

Much of this can be reused from the Technical Summaries from Writing 2

- Architecture Diagrams [*Image format*]

[Diagram Examples](#)

- List of integrated APIs and Frameworks, with sub-bullets detailing the Goals and Endpoints used [*Bulleted list format*]

[APIs and Frameworks](#)

- Main Algorithms of System detailed with the description of how it was used and built within your project [*Paragraph format*]

[Algorithmic Details](#)

November Sprint Planning + Alpha Demo

November Sprint Planning:

- Retro
 - Take time to discuss how the past sprint went and changes you want to make going into the next sprint
- Card Commitment
 - Decide on which cards each team member will commit to in the next sprint
- Alpha Demo Plan
 - Plan your Alpha Demo and the cards needed to reach the demo by December 5