

LICENSE ASSET MANAGEMENT SYSTEM
CS 5320 SOFTWARE DESIGN
FALL 2024
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TEAM 10 INTRODUCTION

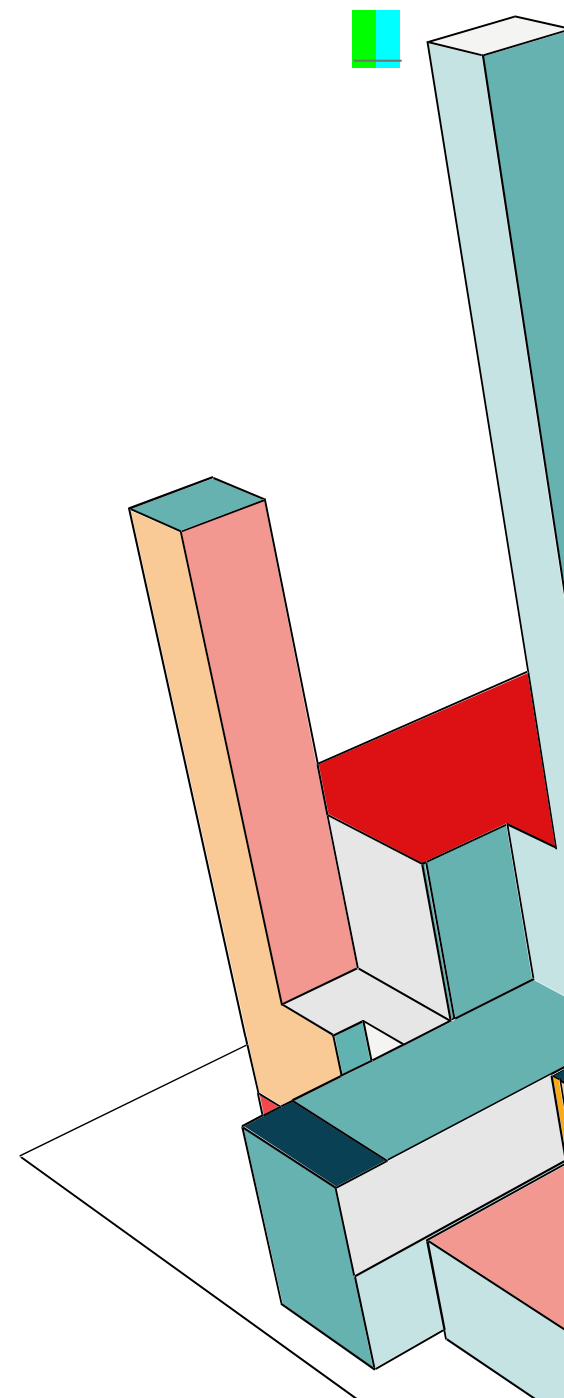
- John Williams
- Graduate Student

Johnny Colby King
Graduate Student

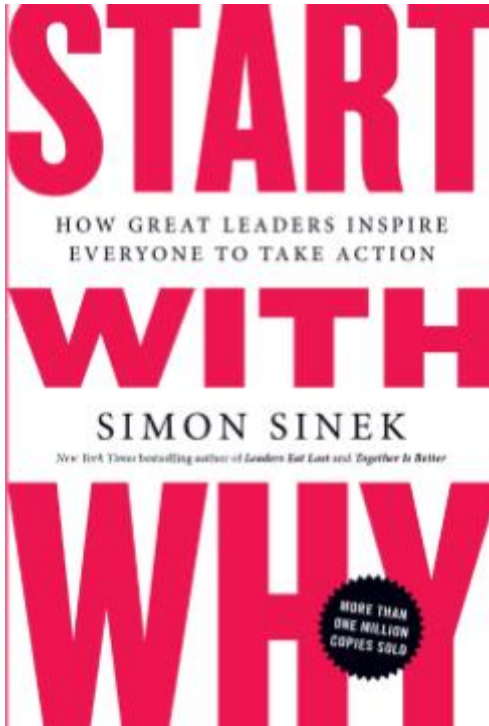


AGENDA

- Introduction
- Start with Why
- What
- How
- Analysis
- Work Breakdown, Task Distribution
- Planning and Progress
- Research Paper
- Conclusion
- Q & A



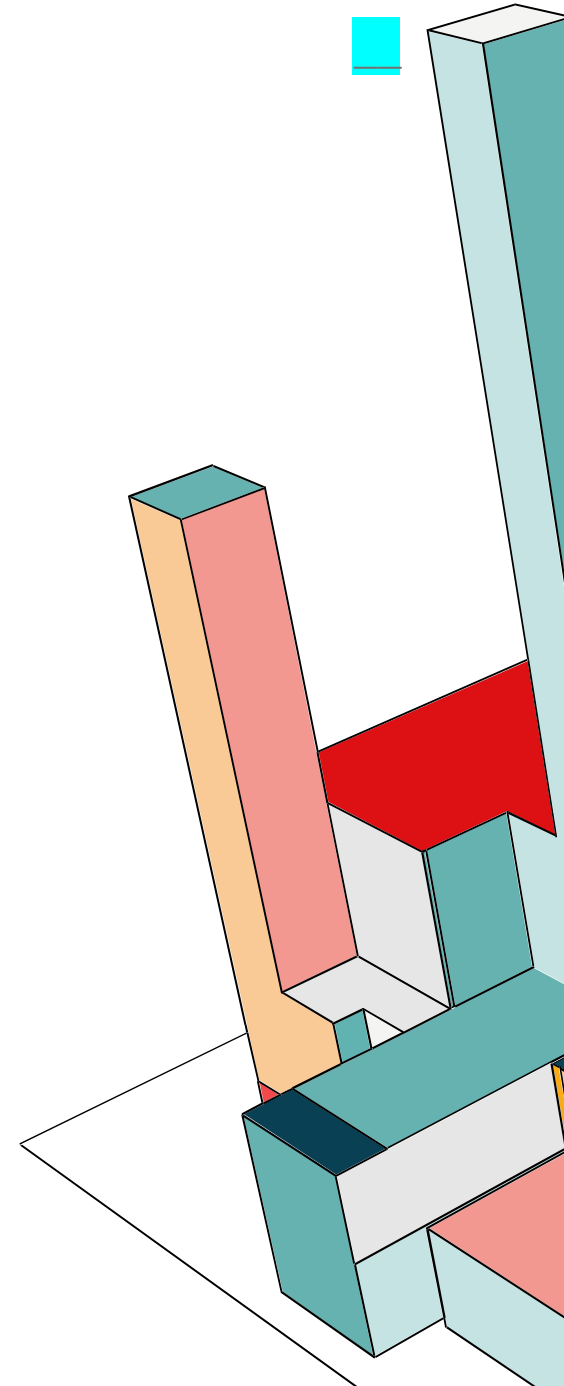
WHY



- Software Developers need a way to control who can use their software.
 - Government regulations
 - For profit
 - Other reasons

WHAT

- The License Asset Management System is an online store that sells and manages software subscriptions.
- The prototype the team is building is a centralized system, but for production, the final system will be a distributed system.





HOW

- The License Asset Management System is implemented as a SaaS application.
- The system is built using ASP.Net Core technology running on a Windows machine.
- The Systems web page will allow guest to create accounts and obtain subscriptions for different software products. Subscriptions may be free, or fee based, depending on the software developers request.
- The System will also provide Admin users special privileges.
- Software developers will have access to an SDK that will enable their products to require subscriptions to function.

ANALYSIS/REQUIREMENTS



THE 8 ARCHITECTURE DESIGN DECISIONS

- Is there a generic application architecture that can act as a template?
 - Yes, we started with a generic MVC template in Visual Studio
- How will the system be distributed across hardware cores?
 - Prototype centralized, production distributed
- What architectural patterns might be used?
 - Multi-Tier client server architectural pattern
- What strategy will be used to control the components of the system?
 - MVC will be used to isolate the components



THE 8 ARCHITECTURE DESIGN DECISIONS (CONTINUED)

- How should the architecture be documented?
 - Using a variety of UML diagrams to create an architectural description document
- What architectural organization is best for delivering the non-functional requirements?
 - MVC leads to maintainability
- How will components be decomposed into sub-components?
 - Objects will be broken down into Models, Views, and Controllers
- What approach will be used to structure the system?
 - Application will be on server, clients will use web browsers



FUNCTIONAL REQUIREMENTS

- Guest can access homepage/account information
- Software Developer can add subscriptions/products to store
- Admin can manage data
- Guest can search for products by category(keyword implementation later)
- Guest can make purchases in store/start subscription
- Software Developer can query subscription reports from database



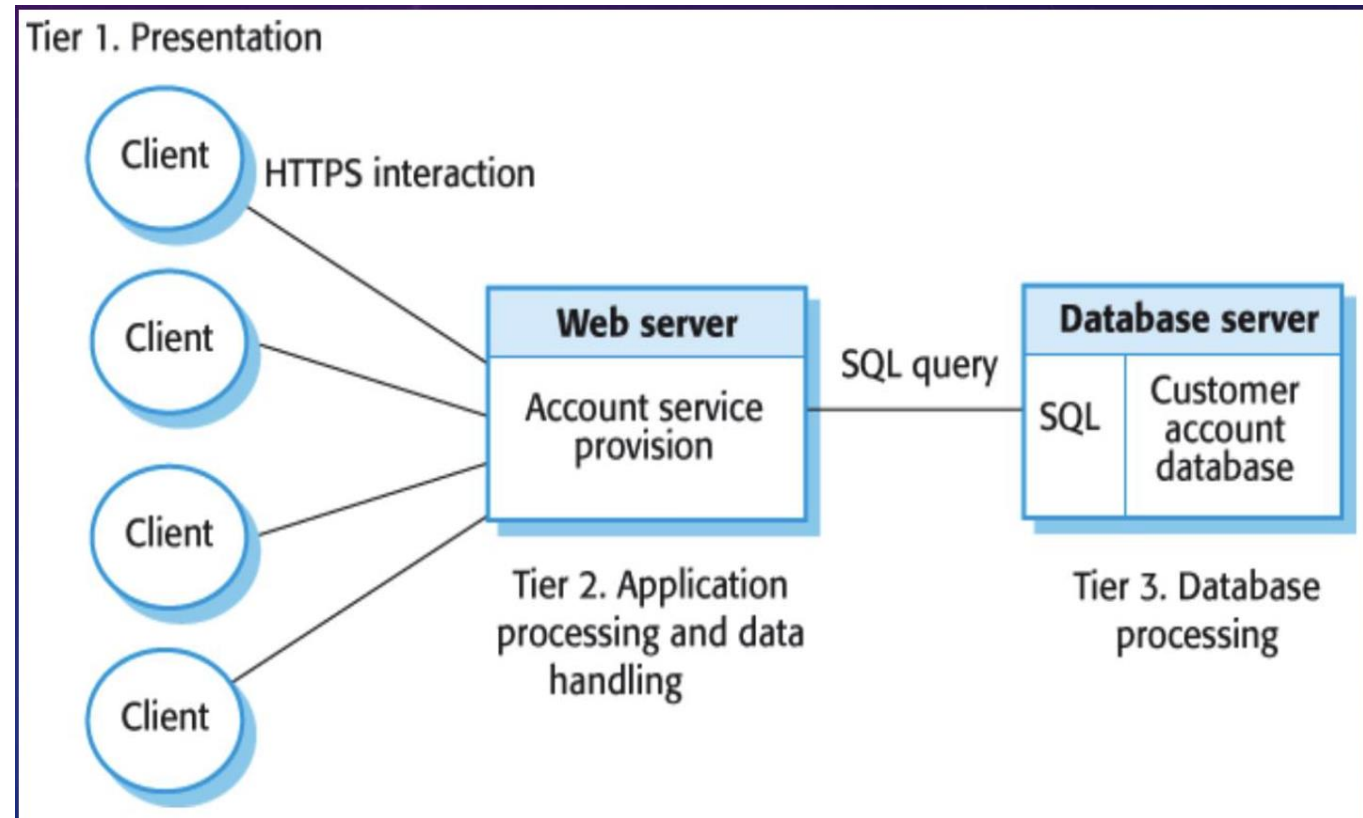
NON-FUNCTIONAL REQUIREMENTS

- Design shall follow sound software engineering practices
- Customer data will be secure with only admin and personal access (Security)
- Code will maintainable and reusable with proper software conventions (Maintainability)
- Code will have unit testing to ensure system meets customer needs (Maintainability)
- UI will use Bootstrap to provide a pleasant user experience (Usability + Compatibility)
- Multi-tier architectural pattern for larger (Scalability)
- Website shall be available for 99% of the time (Availability)
- All responses shall be less than 2 seconds (Performance)

WORK BREAKDOWN/IMPLEMENTATION

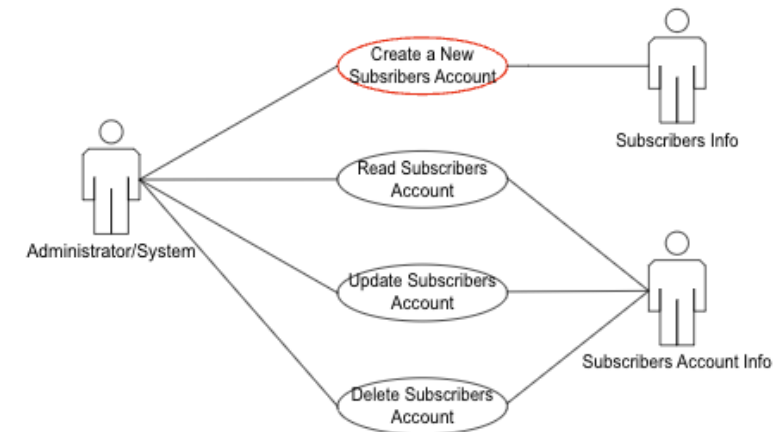
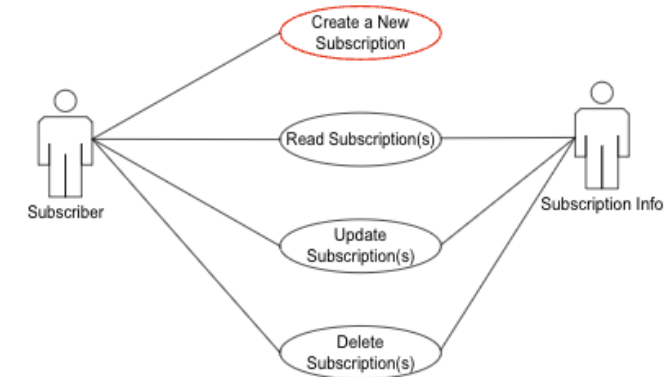
MULTI-TIER CLIENT SERVER ARCHITECTURAL PATTERN

- Good for large volume of transactions
- Able to scale as more clients sign up for the service it will be better for larger scale
- Good for applications where data is volatile



USE CASE / UML DIAGRAMS

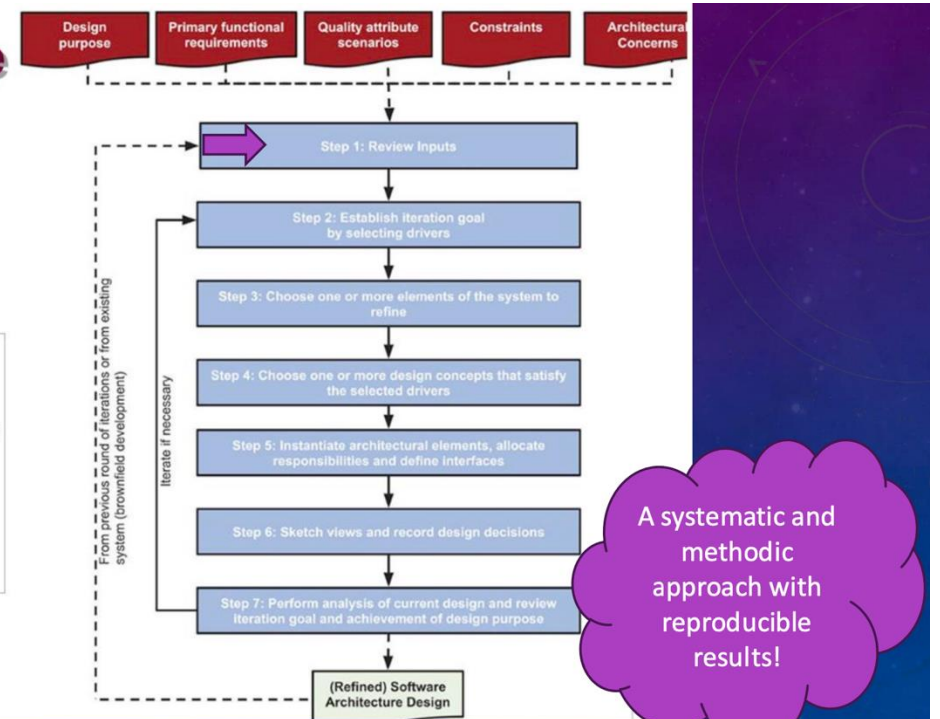
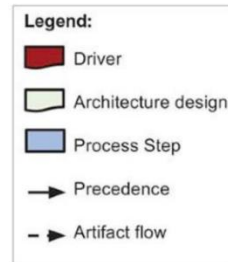
| USE CASE | PRIORITY | DESCRIPTION |
|-------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------|
| UC-1: Browse Public Page | High | Allow user to access the websites public webpage using an internet browser to explore the possible services that they could purchase. |
| UC-2: Submit Subscription Account Request | Medium | Allow user to submit request for subscription account to open the door for purchases on the website. |
| UC-3: Login | Medium | Allow user to login to subscription account and also allow admin to login to admin account. |
| UC-4: Create New Subscribers Account | Medium | Allow the system to create a subscription account. |
| UC-5: Read Subscriber Account | Low | Read the subscriber account data that is associated with the user's profile. |
| UC-6: Update Subscriber Account | Low | Update the subscriber account data that is associated with the user's profile. |
| UC-7: Delete Subscriber Account | Low | Delete the subscriber account data that is associated with the user's profile. |
| UC-8: Create a new Subscription | Medium | Allows the subscriber to create a new subscription. |
| UC-9: Read Subscription | Medium | Allows the subscriber to read a subscription. |
| UC-10: Update Subscription | Low | Allows the subscriber to update a subscription. |
| UC-11: Delete Subscription | Low | Allows the subscriber to delete an existing subscription. |
| UC-12: Authenticate Subscription | Medium | Program checks database to ensure proper subscription is held, if not it lets the user have the option to purchase. |
| UC-13: Pay for Subscription | Low | Handles the payment and transactions for users to purchase things on the site. |



DESIGN PROCESS ADD 3.0 ITERATION

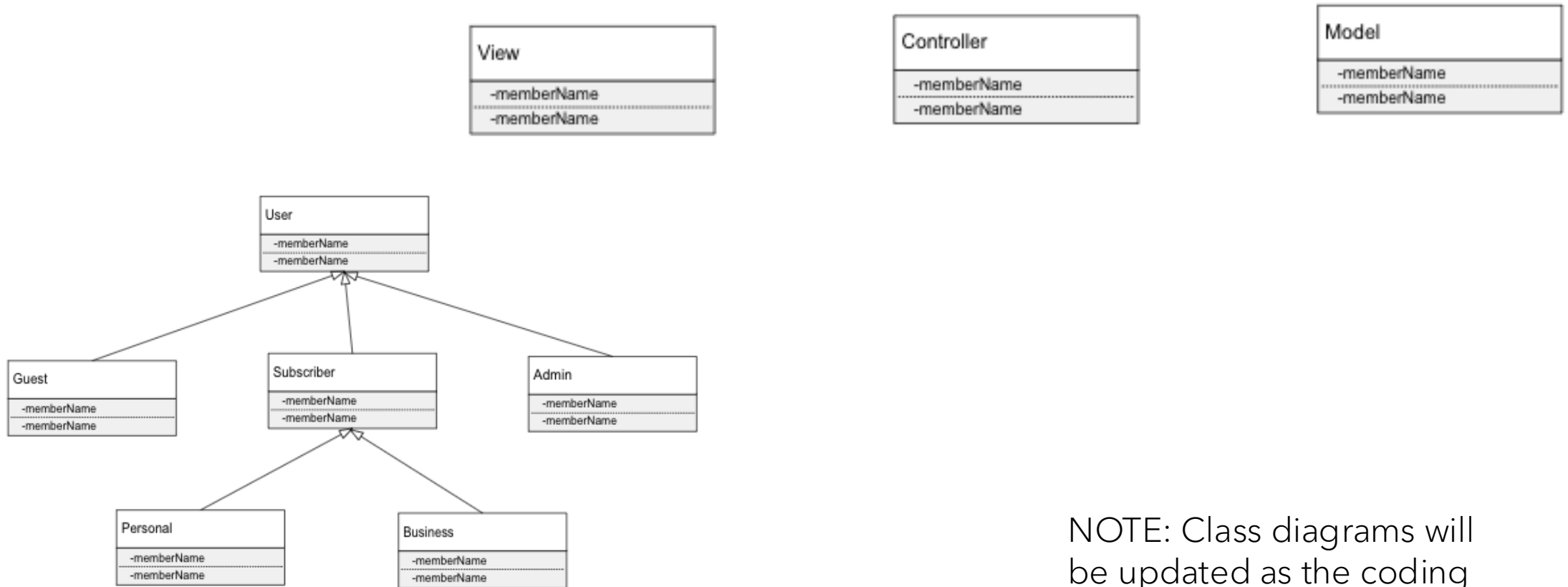
| USE CASE | PRIORITY | DESCRIPTION | STATUS |
|-------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------|-------------|
| UC-1: Browse Public Page | High | Allow user to access the websites public webpage using an internet browser to explore the possible services that they could purchase. | DONE |
| UC-2: Submit Subscription Account Request | Medium | Allow user to submit request for subscription account to open the door for purchases on the website. | TO DO |
| UC-3: Login | Medium | Allow user to login to subscription account and also allow admin to login to admin account. | TO DO |
| UC-4: Create New Subscribers Account | Medium | Allow the system to create a subscription account. | TO DO |
| UC-5: Read Subscriber Account | Low | Read the subscriber account data that is associated with the user's profile. | TO DO |
| UC-6: Update Subscriber Account | Low | Update the subscriber account data that is associated with the user's profile. | TO DO |
| UC-7: Delete Subscriber Account | Low | Delete the subscriber account data that is associated with the user's profile. | TO DO |
| UC-8: Create a new Subscription | Medium | Allows the subscriber to create a new subscription. | In progress |
| UC-9: Read Subscription | Medium | Allows the subscriber to read a subscription. | In progress |
| UC-10: Update Subscription | Low | Allows the subscriber to update a subscription. | TO DO |
| UC-11: Delete Subscription | Low | Allows the subscriber to delete an existing subscription. | TO DO |
| UC-12: Authenticate Subscription | Medium | Program checks database to ensure proper subscription is held, if not it lets the user have the option to purchase. | In progress |
| UC-13: Pay for Subscription | Low | Handles the payment and transactions for users to purchase things on the site. | TO DO |
| UC-14: Submit admin account Request | Medium | Allows admin to request a new admin account to add more admin. | In progress |

Attribute Driven Design (3.0)



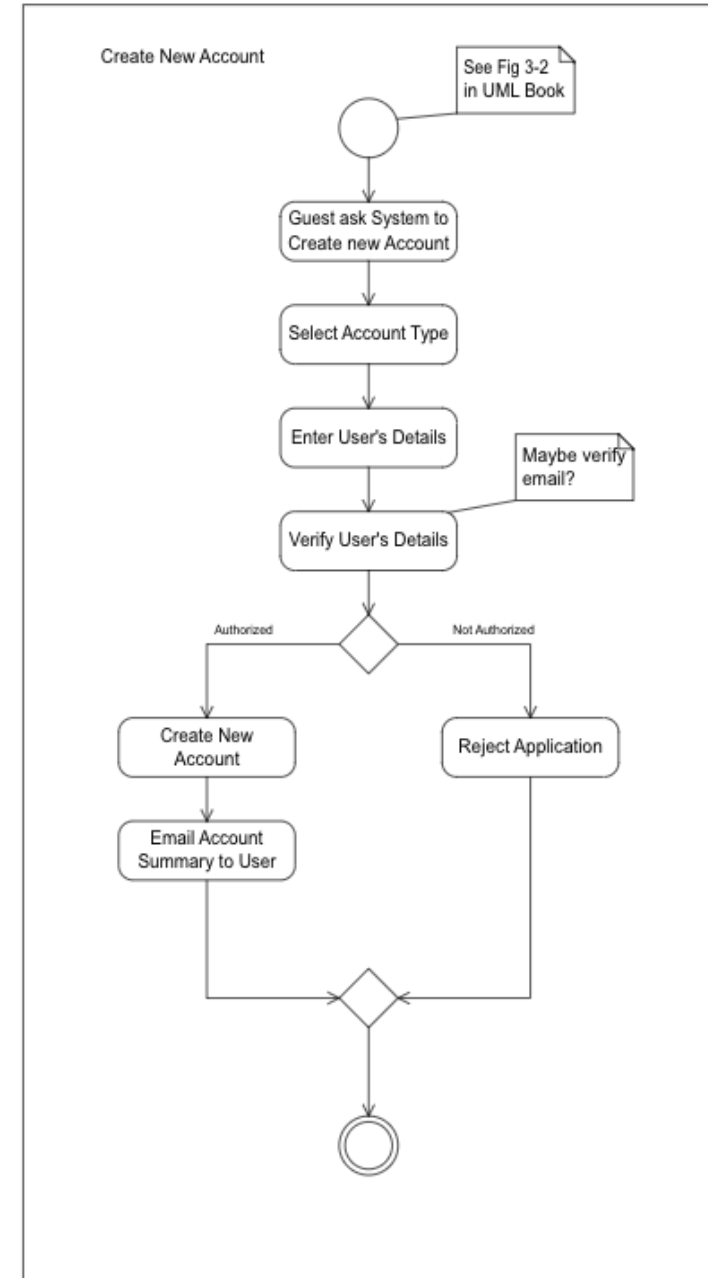
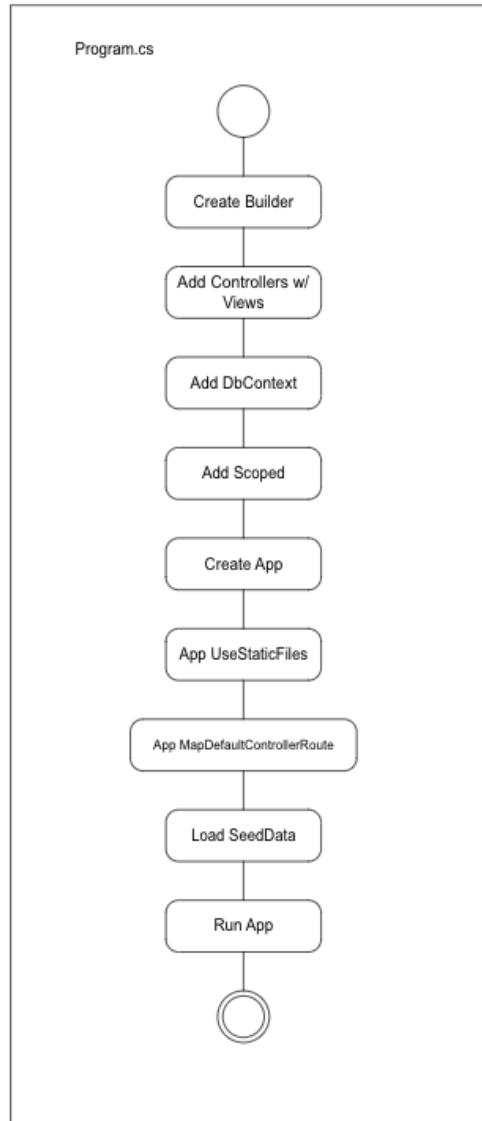


CLASS DIAGRAMS



NOTE: Class diagrams will be updated as the coding progresses

ACTIVITY DIAGRAMS



TASK DISTRIBUTION



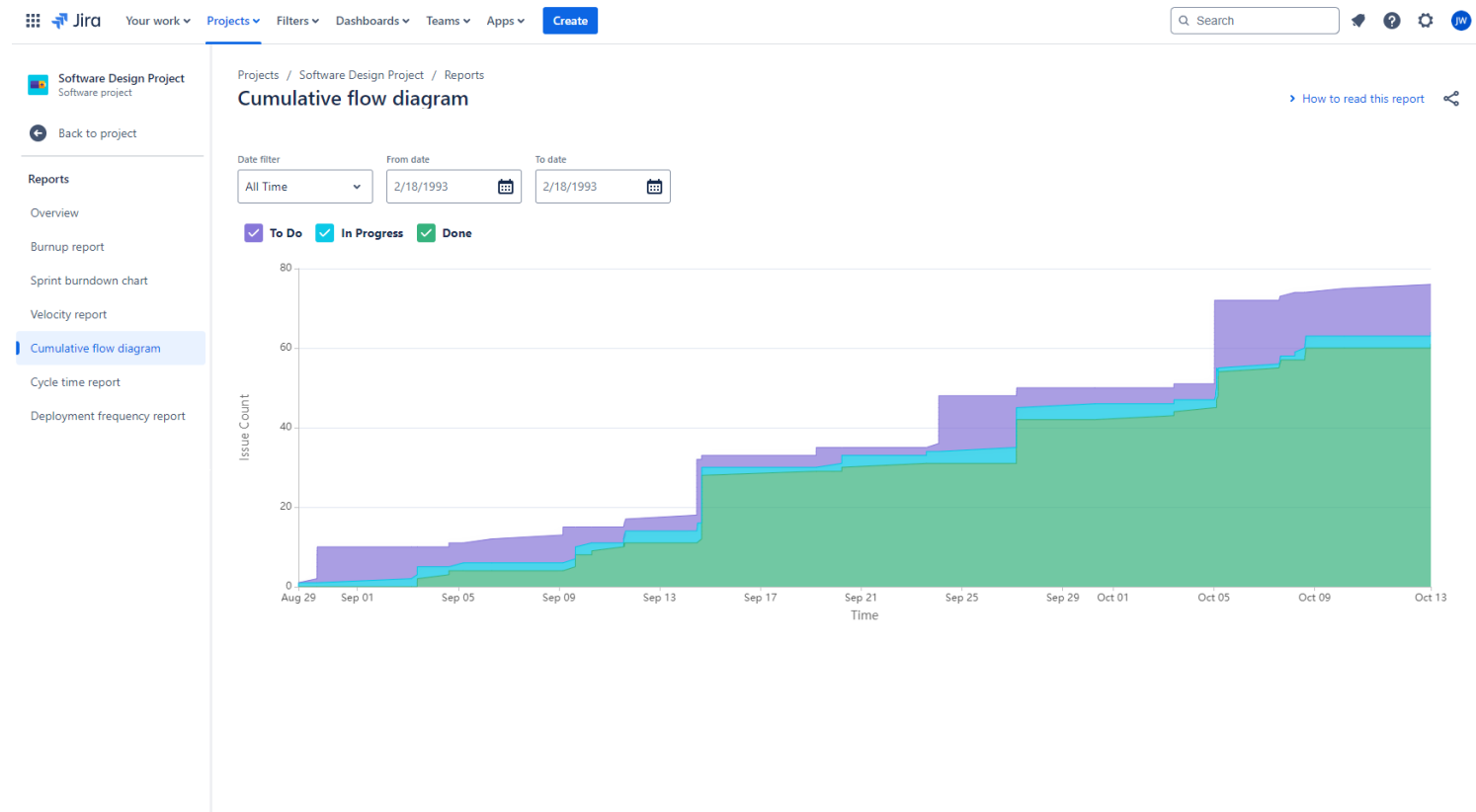
PLANNING AND PROGRESS USING JIRA

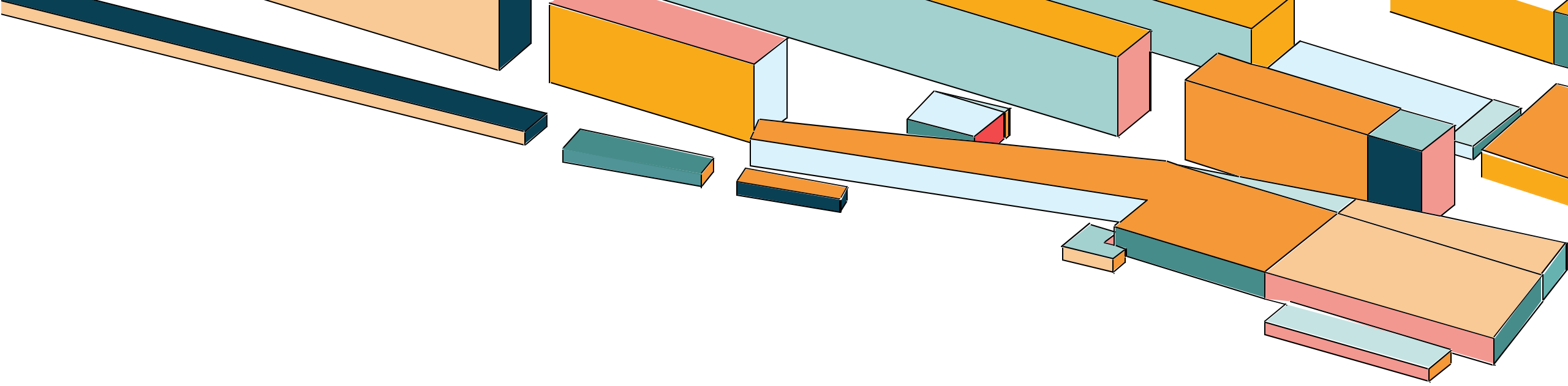
The screenshot displays the Jira interface for a project named "Software Design Project". The main view is a Scrum board for "SCRUM Sprint 7", which has the goal of "Build the shopping cart Section 8.2 in Pro Asp.Net Core 7 book". The board is organized into three columns: "TO DO" (12 items), "IN PROGRESS" (3 items), and "DONE" (1 item). Each item is a task card with a title, status, and assignee. For example, in the "TO DO" column, tasks include "Review syllabus for artifacts required for project" (Documentation, assigned to JW) and "Build the shopping cart 8.2" (Development, assigned to JW). In the "IN PROGRESS" column, tasks include "Create Catalog Page to display all Products" (Development, assigned to JK) and "Investigate migrations" (Development, assigned to JW). The "DONE" column contains one task: "Get Windows VM for Colby" (Training, assigned to JK).

On the right sidebar, the "Sprint insights" section provides an overview of the sprint's health and progress. It shows "Issues for attention" (All, Stuck, Blocked, Flagged) and a "Sprint progress" bar indicating that 9% of the sprint is complete. Below this, the "Sprint burndown" chart shows the progress of the sprint, with 5 points done and 51 points to go. The chart is a line graph showing the remaining work over time.

The left sidebar contains navigation options for the project, including "PLANNING" (Timeline, Backlog, Board, Goals, Add view), "DEVELOPMENT" (Code), and "Project pages" (Project pages, Project settings).

MY FAVORITE JIRA REPORT! CUMULATIVE FLOW DIAGRAM





RESEARCH PAPER

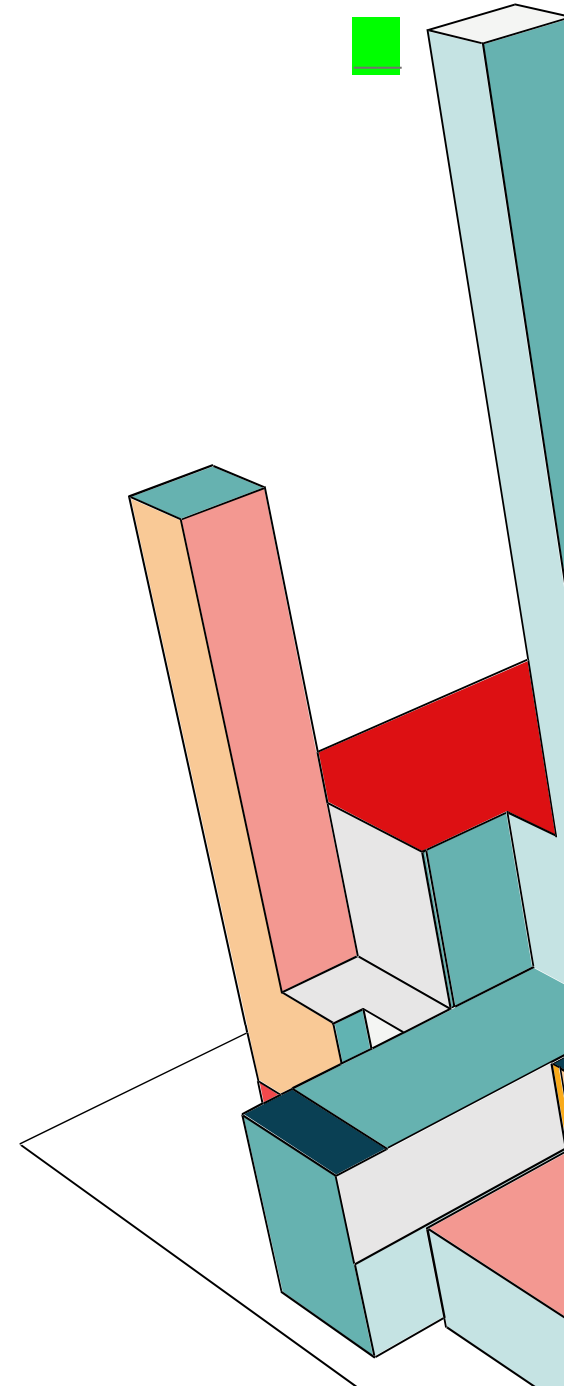


TOPIC

- Advantages of using large drawings to document Software Products

RELATED WORK

- Residential Architects have been using large drawings to convey information for more than a century and the method has worked to a large degree.
- The standard size of large drawing paper is 24" x 36".





NOVEL CONTRIBUTIONS

- Currently, I am not aware of any major reference books on software documentation that suggest using large paper drawing to convey software product information.



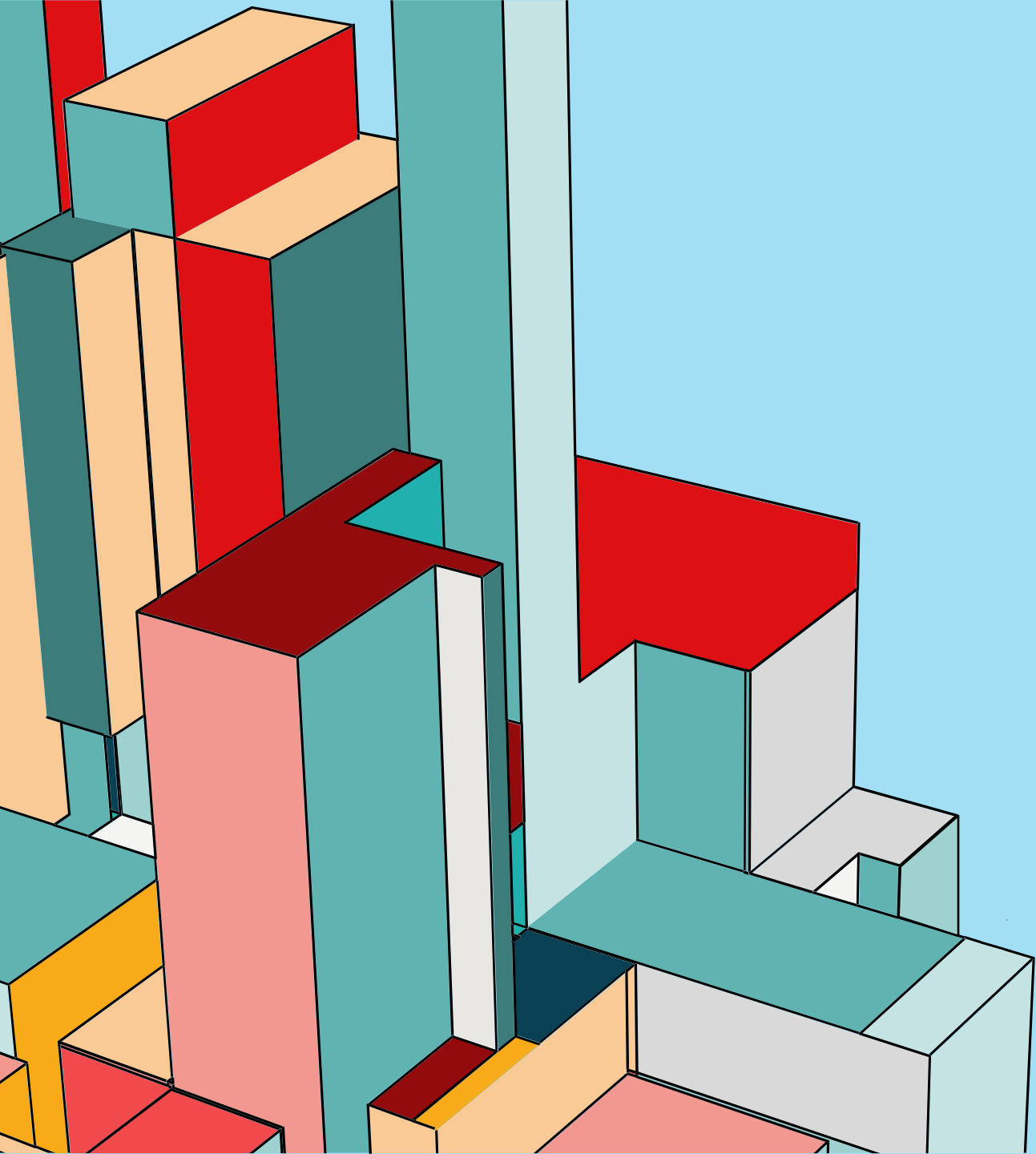
EVALUATION

- We are currently constructing drawings on large electronic paper, 24" x 36", to document our project.
- We will evaluate their effectiveness by allowing others to view the drawings and provide feedback on their ease of understanding and completeness.



CONCLUSION

- We have shown the Why, What, and How that is driving our projects development.
- We have shown the planning that has went into the development of our project to achieve success.
- We have shown the current progress of our project.
- We have provided some analysis of the project and the drivers behind it.
- We have presented the topic of our research paper and some of the ideas we have in that regard.
- We thank you for your attention!



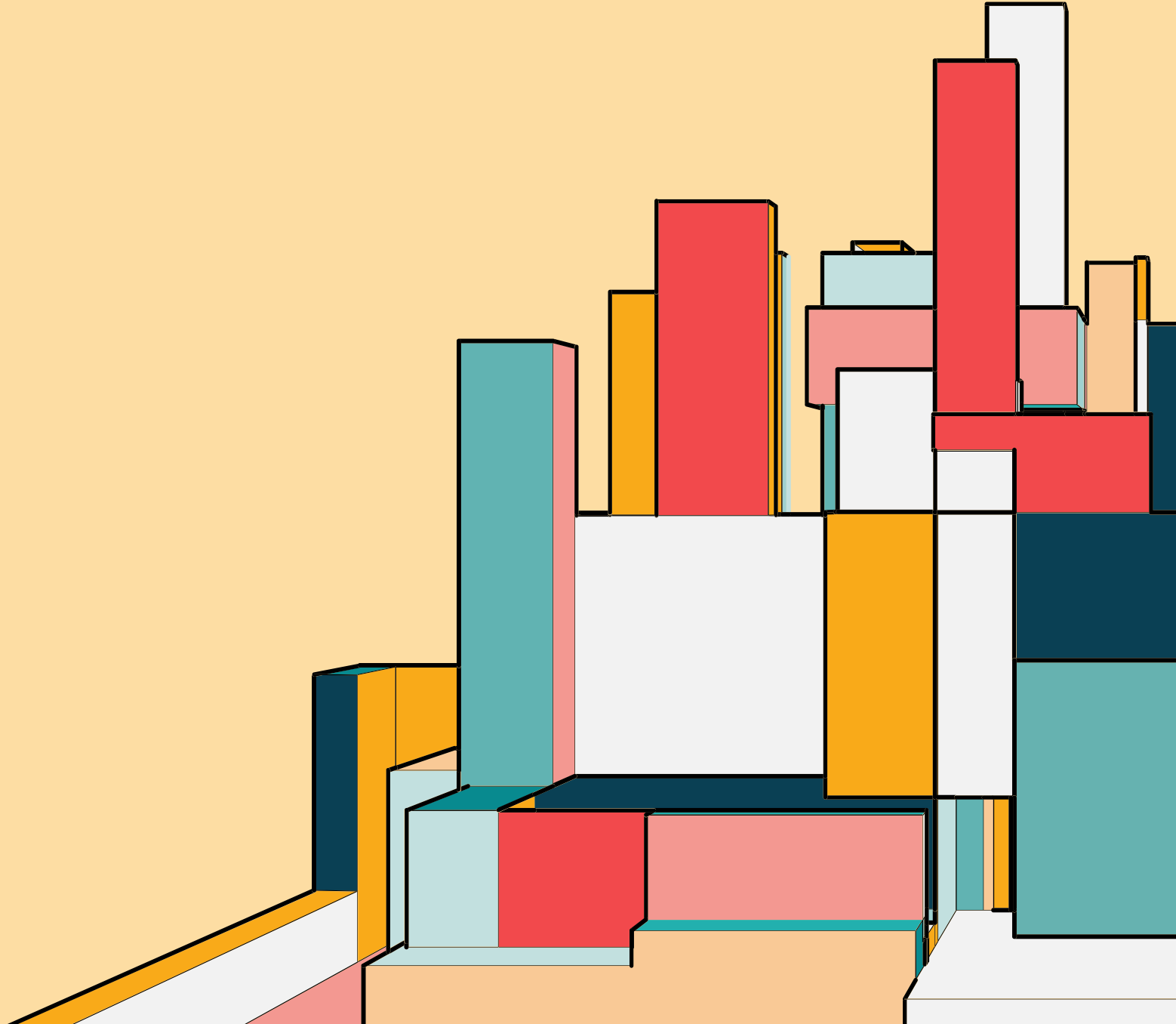
Q & A

THANK YOU

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THE POWER OF COMMUNICATION



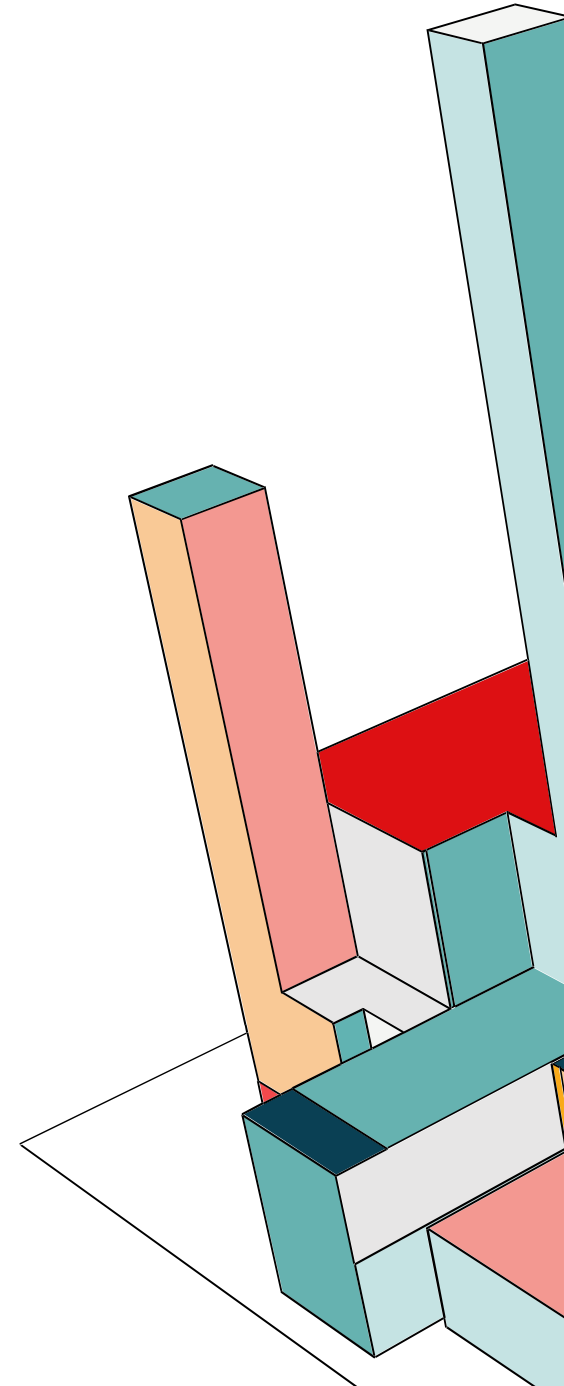


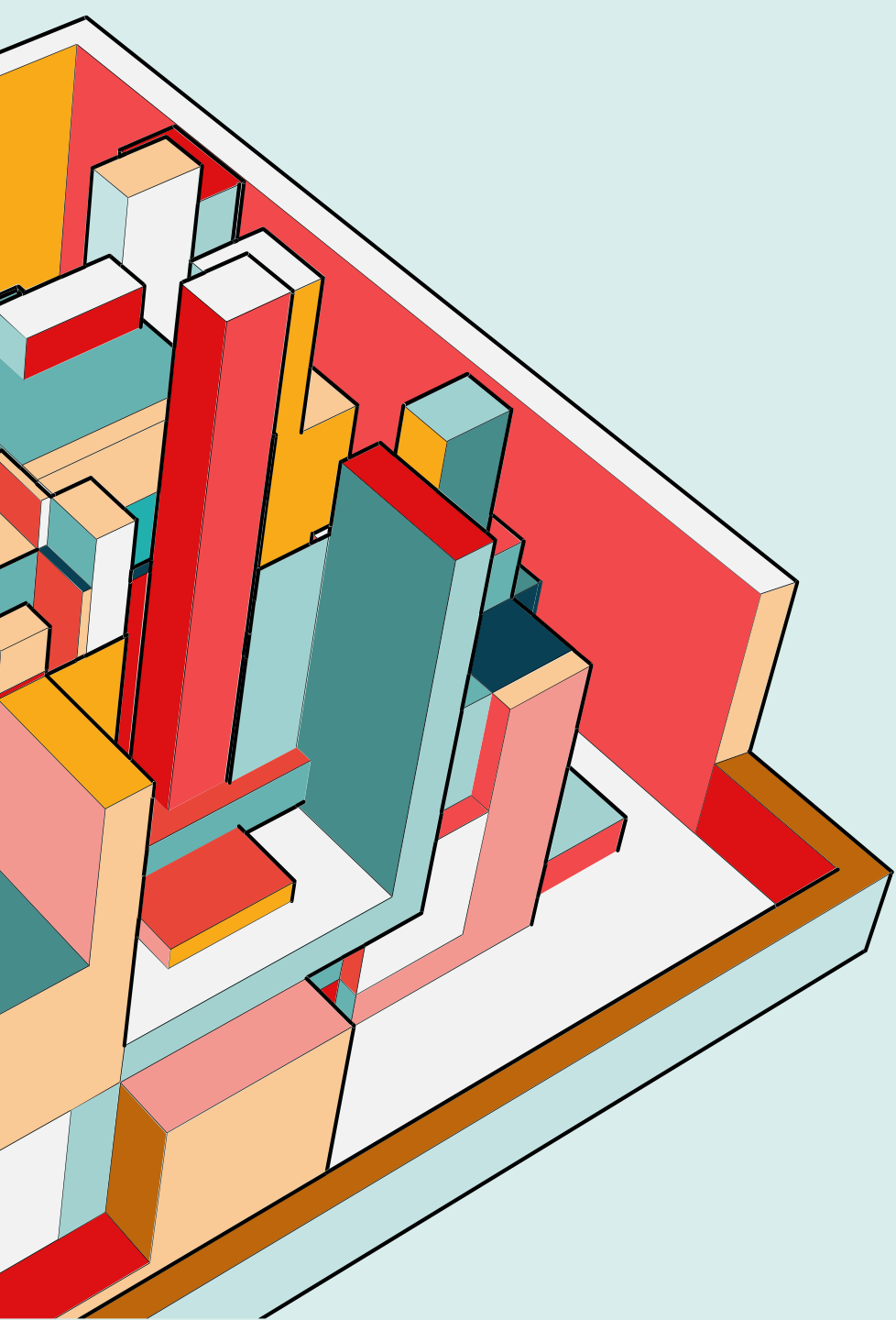
OVERCOMING NERVOUSNESS

Confidence-building strategies

ENGAGING THE AUDIENCE

- Make eye contact with your audience to create a sense of intimacy and involvement
- Weave relatable stories into your presentation using narratives that make your message memorable and impactful
- Encourage questions and provide thoughtful responses to enhance audience participation
- Use live polls or surveys to gather audience opinions, promoting engagement and making sure the audience feel involved





SELECTING VISUAL AIDS

Enhancing your presentation

EFFECTIVE DELIVERY TECHNIQUES

This is a powerful tool in public speaking. It involves varying pitch, tone, and volume to convey emotion, emphasize points, and maintain interest:

- Pitch variation
- Tone inflection
- Volume control

Effective body language enhances your message, making it more impactful and memorable:

- Meaningful eye contact
- Purposeful gestures
- Maintain good posture
- Control your expressions

NAVIGATING Q&A SESSIONS

1. Know your material in advance
2. Anticipate common questions
3. Rehearse your responses

Maintaining composure during the Q&A session is essential for projecting confidence and authority. Consider the following tips for staying composed:

- Stay calm
- Actively listen
- Pause and reflect
- Maintain eye contact

SPEAKING IMPACT

Your ability to communicate effectively will leave a lasting impact on your audience

Effectively communicating involves not only delivering a message but also resonating with the experiences, values, and emotions of those listening



DYNAMIC DELIVERY

Learn to infuse energy into your delivery to leave a lasting impression

One of the goals of effective communication is to motivate your audience

| Metric | Measurement | Target | Actual |
|-------------------------------|----------------|--------|--------|
| Audience attendance | # of attendees | 150 | 120 |
| Engagement duration | Minutes | 60 | 75 |
| Q&A interaction | # of questions | 10 | 15 |
| Positive feedback | Percentage (%) | 90 | 95 |
| Rate of information retention | Percentage (%) | 80 | 85 |

FINAL TIPS & TAKEAWAYS

- Consistent rehearsal
 - Strengthen your familiarity
- Refine delivery style
 - Pacing, tone, and emphasis
- Timing and transitions
 - Aim for seamless, professional delivery
- Practice audience
 - Enlist colleagues to listen & provide feedback

Seek feedback

Reflect on performance

Explore new techniques

Set personal goals

Iterate and adapt



NAVIGATING Q&A SESSIONS

| Impact factor | Measurement | Target | Achieved |
|-----------------------------|--------------------|--------|----------|
| Audience interaction | Percentage (%) | 85 | 88 |
| Knowledge retention | Percentage (%) | 75 | 80 |
| Post-presentation surveys | Average rating | 4.2 | 4.5 |
| Referral rate | Percentage (%) | 10 | 12 |
| Collaboration opportunities | # of opportunities | 8 | 10 |