# CS 499 Module One Assignment Thompson

Complete this template by replacing the bracketed text with the relevant information.

1. **Self-Introduction:** Address all of the following questions to introduce yourself.
   1. How long have you been in the Computer Science program?

**[I have been in the computer science program for nearly two years now. I am currently in my last term after transferring to SNHU and switching my major from Pre-Veterinary Medicine.]**

* 1. What have you learned while in the program? List three of the most important concepts or skills you have learned.

**[While in this program, I have further developed my critical thinking, problem-solving, and logical reasoning skills. I have learned to apply these skills to coding practices in the SDLC and data structures, placing greater emphasis on attention to detail in both academic and professional settings.]**

* 1. Discuss the specific skills you aim to demonstrate through your enhancements to reach each of the course outcomes.

**[For my computer science capstone, I aim to demonstrate a refinement of my skills that showcases significant improvements in functionality, user usability, adherence to guidelines, and the overall appearance of projects in the outcome.]**

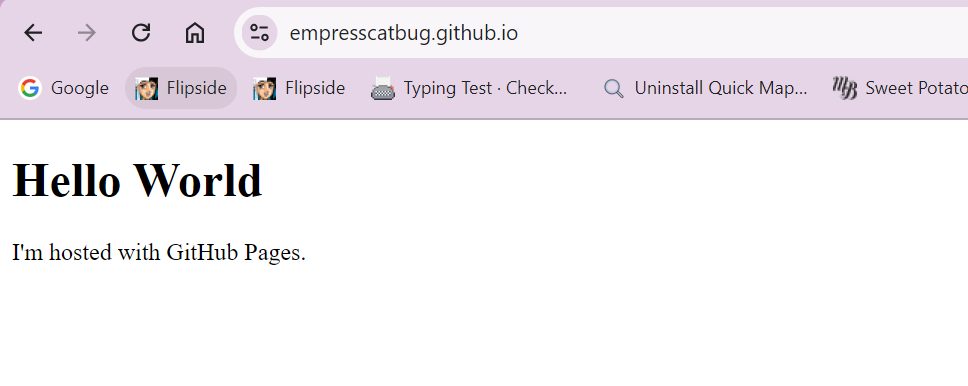
* 1. How do the specific skills you will demonstrate align with your career plans related to your degree?

**[Admittedly, my career plans are currently quite broad, reflecting the wide range of opportunities available in this field. However, I have thoroughly enjoyed previous courses focused on UI/UX design, and I believe I want to pursue a career in that direction. I aim to create everything for my clients, from beautifully designed websites to game development promotion rollouts and everything in between. This path will allow me to leverage my attention to detail, extensive knowledge in data management, and user research skills.]**

* 1. How does this contribute to the specialization you are targeting for your career?

**[This contributes to my targeted specialization in UI/UX design by allowing me to blend creativity with technical expertise. The skills and knowledge I've gained in critical thinking, problem-solving, coding practices, and attention to detail directly enhance my ability to design intuitive, user-friendly interfaces and experiences. My experience in data management and user research enables me to understand and anticipate user needs, creating solutions that are both aesthetically pleasing and highly functional. By focusing on UI/UX design, I can provide comprehensive services that meet diverse client needs, from website design to game development promotion, making me a versatile and valuable asset in the industry.]**

1. **ePortfolio Set Up:**
   1. Submit a **screen capture** of your ePortfolio GitHub Pages home page that clearly shows your URL.
      1. You already have a repository in GitHub where you uploaded projects in previous courses. Your ePortfolio will reside in GitHub but can link to work at other sites, such as Bitbucket.
   2. Use the GitHub Pages link in the Resource section for directions on:
      1. How to create your GitHub website and publish code to GitHub Pages
      2. Issues, such as adding links to other sites
   3. Paste a screenshot of your GitHub Pages home page with your URL clearly showing in the space below.

**[****]**

1. **Enhancement Plan:** 
   1. **Category One:** Software Engineering and Design
      1. **Select an** **artifact** that is **aligned with** **the** software engineering and design **category** and explain its origin. Submit a file containing the code for the artifact you choose with your enhancement plan.

**[**For category one, I have chosen an artifact from CS 330: Computational Graphics and Visualization. The project, titled "CS330 Final Project: 3D Scene and Design Decisions,"  
<https://github.com/EmpressCatbug/CS330Final> **]**

Note: Your artifact may be work from the following courses:

* IT 145: Foundation in Application Development
* CS 250: Software Development Lifecycle
* CS 260: Data Structures and Algorithms
* IT 315: Object Oriented Analysis and Design
* CS 320: Software Testing, Automation, and Quality Assurance
* CS 330: Computational Graphics and Visualization
* CS 340: Advanced Programming Concepts
* CS 350: Emerging Systems Architectures and Technologies
* CS 360: Mobile Architecture and Programming
* IT 365: Operating Environments
* IT 380: Cybersecurity and Information Assurance
* CS 405: Secure Coding
* CS 410: Reverse Software engineering
* IT 340: Network and Telecommunication Management
* IT 380: Cybersecurity and Information Assurance
  + 1. **Describe** a practical, well-illustrated **plan** for enhancement in alignment with the category, including a pseudocode or flowchart that illustrates the planned enhancement.

**[To enhance my original OpenGL project, I plan to transition to using Blender for more advanced 3D modeling and texturing. This will allow me to incorporate detailed and intricate geometry, improving the realism and complexity of my desk setup scene. I will apply high-resolution textures and advanced shading techniques to enhance visual detail. Additionally, I will implement realistic lighting setups, including global illumination and reflections, to create a more immersive environment. To add interactivity and demonstrate my technical skills, I will incorporate basic animations, such as a rotating fan or moving chair, and enhance camera navigation with more sophisticated control algorithms. This enhancement will not only showcase my creativity but also demonstrate my proficiency in using industry-standard tools and techniques in 3D graphics and visualization.]**

For this category of enhancement, consider improving a piece of software, transferring a project into a different language, reverse engineering a piece of software for a different operating system, or expanding a project’s complexity. These are just recommendations. Consider being creative and proposing an alternative enhancement to your instructor.

Think about what additions to include to complete the enhancement criteria in this category. Since one example option is to port to a new language, that is the kind of scale that is expected. This does not mean you need to port to a new language but instead have an equivalent scale of enhancement. Underlying expectations of any enhancement include fixing errors, debugging, and cleaning up comments, but these are not enhancements themselves.

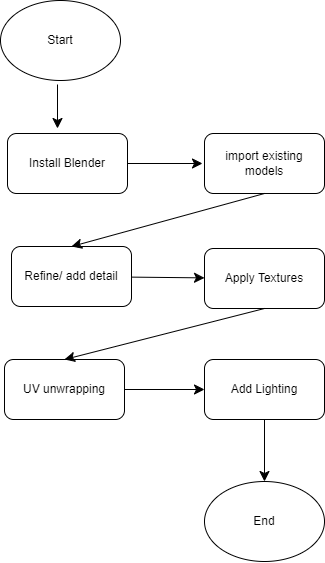
* + 1. Explain how the planned enhancement will **demonstrate** specific **skills** and align with course outcomes.
       1. Identify and describe the specific skills you will demonstrate that align with the course outcome.

**[The planned enhancement of my original OpenGL project using Blender will demonstrate several specific skills that align with the course outcomes.**

**Firstly, by transitioning to Blender for advanced 3D modeling, I will showcase my ability to create detailed and intricate geometry. This skill aligns with the course outcome of developing proficiency in computational graphics techniques. Using Blender's powerful tools, I will model complex objects, adding realism and precision to the scene, thereby demonstrating a deep understanding of 3D modeling principles.**

**Secondly, applying high-resolution textures and advanced shading techniques will highlight my skills in texturing and lighting. This aligns with the course outcome of enhancing visual detail and realism in 3D scenes. By using UV unwrapping and various shading methods, I will create more lifelike textures and realistic lighting effects, including global illumination and reflections, showcasing my ability to enhance the visual fidelity of a scene.**

**Thirdly, incorporating basic animations and improved camera navigation will demonstrate my skills in creating interactive and dynamic environments. This aligns with the course outcome of developing interactive graphics applications. By scripting animations and refining camera controls, I will show my proficiency in adding interactivity to 3D scenes, ensuring a smooth and engaging user experience.**

**Overall, these enhancements will not only improve the aesthetic and functional aspects of the project but also demonstrate my mastery of essential skills in computational graphics and visualization, aligning perfectly with the course outcomes.**  
  
**]**

* + - 1. Select one or more of the course outcomes below that your enhancement will align with.

**[The planned enhancement of my original OpenGL project will align with the following course outcomes:**

**Design, develop, and deliver professional-quality oral, written, and visual communications that are coherent, technically sound, and appropriately adapted to specific audiences and contexts.**

**By transitioning to Blender for advanced 3D modeling, applying high-resolution textures, implementing realistic lighting, and incorporating animations and improved camera navigation, I will demonstrate the ability to create visually compelling and technically sound 3D scenes. This aligns with the course outcome of delivering professional-quality visual communications. The detailed design decisions document, enhanced with comprehensive explanations and visual aids, will ensure that the project is coherent and adapted to both technical and non-technical audiences.**

**Show an ability to use well-founded and innovative techniques, skills, and tools in computing practices to implement computer solutions that deliver value and accomplish industry-specific goals.**

**The use of Blender to enhance my project will showcase my proficiency in employing innovative tools and techniques in 3D modeling, texturing, and lighting. By implementing advanced features and improving the overall quality of the 3D scene, I will demonstrate my ability to use industry-standard tools to create high-value, professional-grade projects. This aligns with the course outcome of implementing computer solutions that meet industry-specific goals.**

**By focusing on these course outcomes, the planned enhancement will not only improve the project's aesthetic and functional aspects but also showcase my mastery of essential skills in computational graphics and visualization, aligning perfectly with the educational objectives of the course.]**

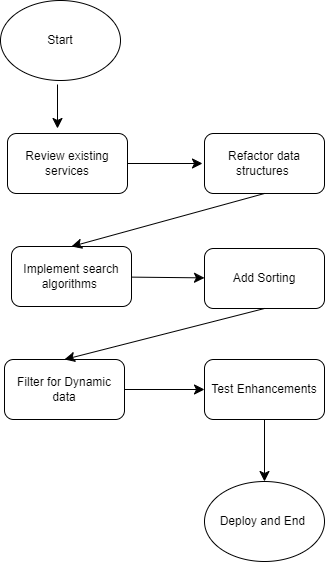
Course Outcomes:

1. Employ strategies for building collaborative environments that enable diverse audiences to support organizational decision-making in the field of computer science.
2. Design, develop, and deliver professional-quality oral, written, and visual communications that are coherent, technically sound, and appropriately adapted to specific audiences and contexts.
3. Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution while managing the trade-offs involved in design choices.
4. Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals.
5. Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources.
   1. **Category Two:** Algorithms and Data Structures
6. **Select an artifact** that is **aligned with the** algorithms and data structures **category** and explain its origin. Submit a file containing the code for the artifact you choose with your enhancement plan. You may choose work from the courses listed under Category One.

**[My CS 320 project aligns with Category Two: Algorithms and Data Structures through the efficient use of data structures like classes and services, which play a key role in the development and management of backend services for mobile applications. Specifically, I designed and implemented services such as ContactService, TaskService, and AppointmentService, each managing their respective objects (contacts, tasks, appointments) using well-structured data types. These services demonstrate the manipulation of data structures through operations such as adding, updating, and deleting objects. The algorithms employed to ensure the correct management of these objects were thoroughly tested through JUnit, focusing on the correctness and integrity of data as it is manipulated across different services. These tests ensured that each algorithm was executed as intended, providing robust and efficient handling of backend tasks while meeting the specified requirements for functionality and security. The project emphasizes both the design and testing of these data structures and algorithms, showcasing my ability to apply these principles in practical scenarios.**  
<https://github.com/EmpressCatbug/CS-320-Final> **]**

1. **Describe** a practical, well-illustrated **plan** for enhancement in alignment with the category, including a pseudocode or flowchart that illustrates the planned enhancement.

**[To enhance my CS 320 project in alignment with Category Two: Algorithms and Data Structures, I plan to optimize the existing services by introducing more efficient algorithms and improving the underlying data structures for better performance and scalability. A key enhancement will involve refactoring the ContactService, TaskService, and AppointmentService classes to use more optimized data structures, such as hash maps, to allow for constant time complexity (O(1)) for insertion, deletion, and lookup operations. This will significantly improve the system’s performance, especially as the data set grows. Additionally, I will implement search algorithms that enable users to efficiently retrieve specific contact, task, or appointment records based on criteria like name or date, enhancing the functionality of the backend services.**

**Further, I plan to introduce more advanced algorithms, such as sorting and filtering, to allow users to view their tasks, contacts, and appointments in an organized manner. This will involve implementing merge sort or quicksort for efficient sorting of the data and adding filters that can dynamically retrieve relevant records based on user input. These enhancements will not only improve the functionality of the system but also demonstrate a deeper understanding of algorithms and data structure optimization.**  
  
**]**

For this category of enhancement, consider improving the efficiency of a project or expanding the complexity of the use of data structures and algorithms for your artifact. These are just recommendations. Consider being creative and proposing an alternative enhancement to your instructor. Note: You only need to choose one type of enhancement per category.

Think about what additions to include to complete the enhancement criteria in this category. Since one example option is to port to a new language, that is the kind of scale that is expected. Perhaps you might increase the efficiency and time complexity of an algorithm in an application and detail the logic of the increased time complexity. Remember, you do not need to port to a new language but instead have an equivalent scale of enhancement. Underlying expectations of any enhancement include fixing errors, debugging, and cleaning up comments, but these are not enhancements themselves.

1. Explain how the planned enhancement will **demonstrate** specific **skills** and align with course outcomes.
   1. Identify and describe the specific skills you will demonstrate to align with the course outcome.

**[The planned enhancement will demonstrate a variety of specific skills that align with the course outcomes of CS 320, particularly in terms of applying algorithms and data structures to solve complex problems efficiently. By refactoring the backend services to use optimized data structures like hash maps, I will demonstrate my ability to select and implement data structures that improve performance, a key skill in software development. This directly supports the course outcome of understanding and applying algorithms and data structures to enhance software performance and scalability.**

**Furthermore, implementing search and sorting algorithms like quicksort or merge sort shows my ability to design and integrate algorithms that improve the system’s functionality. This reflects the course outcome of applying appropriate algorithms to process and manipulate data, ensuring the system meets the requirements for both functionality and efficiency.**

**Adding filters for dynamic data retrieval will also showcase my skills in creating algorithms that enhance user experience by providing customized data outputs. This aligns with the course outcome related to building efficient, user-centered software solutions. Additionally, testing and validating these enhancements with JUnit tests will further demonstrate my competency in ensuring the reliability and correctness of algorithms and data structures, which is crucial for meeting the course’s focus on robust software design.**

**These skills directly align with the course outcomes of applying effective algorithms, optimizing software through appropriate data structures, and developing well-tested, user-centric software systems.]**

* 1. Select one or more of the course outcomes listed under Category One that your enhancement will align with.

**[The planned enhancement will align with the following course outcomes from Category One:**

**Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution while managing the trade-offs involved in design choices.**

**This enhancement aligns with the course outcome by incorporating optimized data structures like hash maps and implementing advanced algorithms such as search, sorting, and filtering. These enhancements are based on algorithmic principles aimed at improving the efficiency and scalability of the backend services. In addition, this involves evaluating the trade-offs between different algorithmic choices (e.g., merge sort vs. quicksort) to find the most suitable solution for the problem. This demonstrates my ability to design and refine computing solutions using best practices in computer science.**

**Show an ability to use well-founded and innovative techniques, skills, and tools in computing practices to implement computer solutions that deliver value and accomplish industry-specific goals.**

**By optimizing the backend services with well-founded techniques such as the use of hash maps and efficient algorithms, the project demonstrates my ability to implement computing solutions that provide tangible value. The refactoring to use more efficient data structures directly contributes to a faster and more reliable backend system, showcasing innovative problem-solving skills that align with industry standards.**

**These outcomes are met through a combination of thoughtful design, the application of appropriate data structures and algorithms, and a focus on improving performance and scalability while maintaining software quality.]**

* 1. **Category Three: Databases**
     1. **Select an artifact** that is **aligned with the** databases **category** and explain its origin. Submit a file containing the code for the artifact you choose with your enhancement plan. You may choose work from the courses listed under Category One.

**[For Category Three: Databases, I have selected my CS 340 project, the Grazioso Salvare Animal Rescue Dashboard, as the aligned artifact. This project involves the development of a web application dashboard that interacts with a MongoDB database to display and filter animal rescue data. The MongoDB database was used due to its flexibility in managing dynamic schemas, which was critical for handling the varying structure of animal rescue data. I utilized the pymongo library to implement CRUD operations, allowing seamless management of the data within the dashboard. This artifact showcases my ability to work with databases, manage large datasets, and integrate them into a user-facing application to provide real-time data visualization and insights.**

**In this project, I demonstrated essential skills in database design and interaction, such as inserting data into MongoDB from a CSV file, performing read operations to filter data based on user input, and ensuring efficient retrieval of relevant records to dynamically update the dashboard’s tables, graphs, and maps. This project highlights my ability to work with databases in a web application context, leveraging both the power of MongoDB for data storage and the flexibility of Dash for creating interactive and dynamic user interfaces.**  
[**https://github.com/EmpressCatbug/CS-340-Project-2**](https://github.com/EmpressCatbug/CS-340-Project-2) **]**

* + 1. **Describe** a practical, well-illustrated **plan** for enhancement in alignment with the category, including a pseudocode or flowchart that illustrates the planned enhancement.

**[**To enhance my CS 340 web application dashboard in alignment with Category Three: Databases, I plan to implement advanced data aggregation and indexing features within MongoDB to improve query efficiency and enhance the user experience. The current system filters data using basic MongoDB queries, but as the dataset grows, query performance could degrade. I will introduce MongoDB indexes on frequently queried fields (e.g., rescue operation type, animal breed) to ensure fast retrieval. Additionally, I will implement MongoDB aggregation pipelines to enable more complex queries, such as generating statistics on rescue operations (e.g., the number of animals rescued by operation type) and retrieving the most frequent breeds or locations for each rescue type.

Moreover, I plan to incorporate a search feature that allows users to find specific animals based on a combination of filters, such as breed, age, and location. This will involve updating the dashboard with more sophisticated query logic, leveraging the power of MongoDB’s aggregation framework. The enhancement will optimize database performance, improve data retrieval times, and provide users with more powerful filtering and analysis options.

**Mock up of suggested enchantments in Pseudocode:**  
**# Create index on the "rescue\_type" field to improve filtering performance**

**db.animals.create\_index("rescue\_type")**

**# Aggregation pipeline for counting the number of animals rescued by type**

**pipeline = [**

**{"$group": {"\_id": "$rescue\_type", "total": {"$sum": 1}}},**

**{"$sort": {"total": -1}}**

**]**

**# Fetch and display the aggregated data**

**result = db.animals.aggregate(pipeline)**

**for doc in result:**

**print(f"Rescue Type: {doc['\_id']}, Total Rescued: {doc['total']}")**

**# Search animals based on multiple filters**

**def search\_animals(rescue\_type=None, breed=None, age\_range=None):**

**query = {}**

**if rescue\_type:**

**query["rescue\_type"] = rescue\_type**

**if breed:**

**query["breed"] = breed**

**if age\_range:**

**query["age"] = {"$gte": age\_range[0], "$lte": age\_range[1]}**

**# Perform search with optimized query**

**result = db.animals.find(query).limit(100) # limit results for performance**

**return list(result)**

**]**

For this category of enhancement, consider adding more advanced concepts of MySQL, incorporating data mining, creating a MongoDB interface with HTML/JavaScript, or building a full stack with a different programming language for your artifact. These are just recommendations; consider being creative and proposing an alternative enhancement to your instructor. Note: You only need to choose one type of enhancement per category.

Think about what additions to include to complete the enhancement criteria in this category. Since one example option is to port to a new language, that is the kind of scale that is expected. Perhaps you might increase the efficiency and time complexity of an algorithm in an application and detail the logic of the increased time complexity. Remember, you do not need to port to a new language but instead have an equivalent scale of enhancement. Underlying expectations of any enhancement include fixing errors, debugging, and cleaning up comments, but these are not enhancements themselves.

* + 1. Explain how the planned enhancement will **demonstrate** specific **skills** and align with course outcomes.
       1. Identify and describe the specific skills you will demonstrate that align with the course outcome.

**[The planned enhancement will demonstrate key skills that align with the course outcomes of the CS 340 project, particularly in the areas of database optimization, data retrieval, and system scalability. By implementing MongoDB indexes and aggregation pipelines, I will showcase my ability to optimize database performance. Creating an index on the `rescue\_type` field improves query efficiency, which is crucial as the dataset grows. This directly aligns with the course outcome of using well-founded and innovative techniques in computing practices, as indexing is a standard industry technique for improving database efficiency.**

**Additionally, the use of MongoDB’s aggregation framework to generate statistics, such as the total number of animals rescued by type, demonstrates my proficiency in performing complex data manipulations. This skill aligns with the course outcome of designing and evaluating computing solutions that utilize algorithmic principles. Aggregation requires a deep understanding of how to group and sort data efficiently, providing solutions to specific problems like generating reports or summaries.**

**The enhancement also includes dynamic querying based on multiple filters, such as rescue type, breed, and age range. This showcases my ability to develop flexible and efficient data retrieval mechanisms, demonstrating my understanding of how to balance the need for performance optimization with the flexibility of user-driven queries. This aligns with the course outcome of designing computing solutions that manage trade-offs involved in design choices.**

**Finally, these enhancements ensure the scalability of the system as data grows, aligning with the course outcome of using computing techniques and tools to deliver valuable, real-world solutions. By improving database performance and scalability, I am creating a system that can handle increasing data loads while maintaining efficiency and functionality, demonstrating my ability to apply innovative and well-founded solutions to real-world problems.]**

* + - 1. Select one or more of the course outcomes listed under Category One that your enhancement will align with.

**[The planned enhancement for the CS 340 project aligns with the following course outcomes from Category One:**

**Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution while managing the trade-offs involved in design choices:**

**The enhancement involves optimizing database queries through indexing and aggregation, which uses algorithmic principles to improve performance. By choosing to implement indexes and using aggregation pipelines, I am balancing the need for efficient data retrieval with the complexity of design choices, ensuring the solution remains scalable as the dataset grows.**

**Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals:**

**By leveraging MongoDB's advanced features such as indexing and aggregation, this enhancement shows my ability to use innovative techniques and tools to improve the functionality and efficiency of the database. These optimizations ensure that the web application can handle real-time data processing efficiently, which aligns with delivering practical and valuable solutions in the field of animal rescue.**

**Both outcomes emphasize my ability to design effective solutions using well-established computing practices and innovative techniques that ensure the system's performance, scalability, and real-world applicability.]**

1. **ePortfolio Overall Skill Set**
   1. Accurately describe the **skill set** to be illustrated by the **ePortfolio** **overall**.
      1. Skills and outcomes planned to be illustrated in the code review

**[The overall skill set illustrated by my ePortfolio will demonstrate a comprehensive understanding of key computer science concepts, including software development, testing, optimization, and database management. The projects showcased in my portfolio highlight my ability to design, develop, and enhance software solutions using best practices, algorithmic principles, and innovative tools across various domains such as backend services, web applications, and data-driven systems.**

**Key Skills Illustrated:**

**1. Algorithm Design and Optimization:**

**- Through projects like the CS 320 backend services and CS 340 web application dashboard, I will demonstrate my ability to design and optimize algorithms for efficient data handling and processing. This includes the use of sorting, filtering, and indexing techniques to improve performance and scalability.**

**2. Database Management and Query Optimization:**

**- By showcasing my use of MongoDB in the CS 340 project, I will illustrate my proficiency in managing databases, implementing CRUD operations, optimizing queries with indexes, and using aggregation pipelines to handle complex data manipulation efficiently.**

**3. Software Testing and Quality Assurance:**

**My CS 320 project emphasizes software testing strategies, particularly through unit tests to ensure the robustness and security of backend services. This reflects my commitment to delivering high-quality, reliable software by adhering to testing best practices and maintaining over 80% test coverage.**

**4. System Scalability and Performance:**

**- Enhancements made in my projects, such as the use of indexing in databases and optimization of services, demonstrate my understanding of scalability and performance considerations. I can manage trade-offs in design choices to ensure systems remain efficient as they grow in complexity.**

**5. Web Application Development:**

**- In the CS 340 project, I developed an interactive dashboard using Dash and Plotly, showcasing my skills in full-stack development, integrating front-end user interfaces with back-end data services, and ensuring a seamless, data-driven user experience.**

**Skills and Outcomes in Code Review:**

**In the code review, I will focus on demonstrating:**

**- Code Efficiency and Optimization: Highlighting improvements such as database indexing, aggregation pipelines, and algorithm refinements to show my ability to write efficient, performance-oriented code.**

**- Readability and Maintainability: Ensuring the code is well-structured, commented, and adheres to best practices for future maintainability.**

**- Testing and Validation: Showcasing robust unit tests, including test cases that ensure edge cases and error handling are addressed, reflecting strong software quality assurance skills.**

**- Problem-Solving Using Algorithmic Principles: Demonstrating how the applied algorithms solve specific problems effectively, aligning with real-world requirements and course outcomes.]**

* + 1. Skills and outcomes planned to be illustrated in the narratives

**[In the narratives, I will illustrate key skills and outcomes by explaining my approach to problem-solving, database optimization, software testing, and scalability. I will highlight how I applied algorithmic principles to solve complex challenges, such as using indexing and aggregation in MongoDB to enhance performance in the CS 340 project. Additionally, I will discuss my focus on quality assurance through unit testing in the CS 320 project, demonstrating my commitment to building reliable and secure software. The narratives will also reflect my critical thinking and decision-making process when selecting tools and designing systems, emphasizing scalability and performance trade-offs. Lastly, I will showcase my communication skills by explaining technical concepts clearly and ensuring that project decisions align with both user needs and security considerations. These narratives will emphasize my ability to design, optimize, and communicate professional-quality software solutions.]**

* + 1. Skills and outcomes planned to be illustrated in the professional self-assessment

**[In the professional self-assessment, I will illustrate my growth in technical skills, problem-solving abilities, and project management throughout my coursework. I will highlight my proficiency in applying algorithmic principles and database management techniques, such as using MongoDB indexing and aggregation to optimize performance in the CS 340 project. I will also reflect on my software testing abilities, particularly my success in achieving high test coverage in the CS 320 project, ensuring software quality and reliability.**

**Additionally, the self-assessment will showcase my ability to make informed design decisions, manage scalability and performance trade-offs, and effectively communicate technical solutions. I will emphasize my development of a security mindset, ensuring the protection of data and system integrity in all my projects. Overall, the self-assessment will reflect how these skills align with course outcomes and demonstrate my readiness to apply them in professional environments.]**