**Artifact One: Software Engineering and Design**

*Artifact Description and Origin:*

The artifact I've chosen for the Software Engineering and Design category is a Java-based slideshow application, created for the CS 250 course. This project was developed using the Eclipse IDE and showcases various travel destinations around the world. The original implementation utilizes Java Swing for the graphical user interface, providing a simple yet functional slideshow of images with accompanying text descriptions.

*Enhancement Description*

I have successfully converted the Java-based slideshow application into a web-based format using HTML, CSS, and JavaScript. This conversion demonstrates my ability to adapt software for different platforms and environments, showcasing key software engineering and design skills.

*Screenshots of the Enhancement:*

The first screenshot shows the web-based version of the slideshow, displaying a destination (Langkawi, Malaysia) with its description and like/dislike buttons. A screenshot of a computer

Description automatically generated

The second screenshot displays the original Java code in the Eclipse IDE alongside the running Java application, providing a clear before-and-after comparison. A screenshot of a computer

Description automatically generated

The third screenshot shows a close-up of the like/dislike functionality, demonstrating the interactive elements added to the web version.

A screenshot of a facebook like and dislike message

Description automatically generated

The fourth screenshot presents the HTML code of the enhanced version, showing the structure of the web-based slideshow.

A screenshot of a computer

Description automatically generated

*Key Enhancements:*

I Successfully converted the Java application to a web-based format using HTML, CSS, and JavaScript. I also improved User Interface by redesigning the UI to be more visually appealing and user-friendly, incorporating modern web design principles. I added features such as like/dislike buttons and a reset function for all likes/dislikes. I refactored the codebase to improve efficiency, readability, and maintainability. I also added comprehensive comments to the HTML, CSS, and JavaScript code for improved clarity and maintainability.

*Course Outcomes and Corresponding Narratives*

* Outcome 1: Employ strategies for building collaborative environments that enable diverse audiences to support organizational decision making in the field of computer science
* Narrative: The conversion of the Java application to a web-based format enables easier sharing and collaboration. The enhanced slideshow serves as a visually appealing and technically sound communication tool adaptable to various audiences, supporting organizational decision-making in computer science.
* Outcome 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
* Narrative: The enhanced web-based slideshow demonstrates professional-quality visual communication. It coherently presents travel destinations with clear, concise descriptions and high-quality images, adapted to a broad audience interested in travel and wellness.
* Outcome 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
* Narrative: The conversion process required evaluating the original Java solution and designing an appropriate web-based alternative. This process involved managing trade-offs in design choices, such as balancing visual appeal with performance and considering cross-browser compatibility.

*Planned Enhancements:*

To showcase my software engineering and design skills, I plan to enhance this artifact in the following ways:

* Platform Migration: Convert the Java application to a web-based format using HTML, CSS, and JavaScript. This will demonstrate my ability to adapt software for different platforms and environments.
* Improved User Interface: Redesign the user interface to be more visually appealing and user-friendly, incorporating modern web design principles and responsive layouts.
* Enhanced Functionality: Add features such as automatic slideshow progression, transition effects between slides, and potentially a feature to allow users to add their destinations.
* Code Optimization: Refactor the codebase to improve efficiency, readability, and maintainability, adhering to best practices in web development.
* Cross-browser Compatibility: Ensure the application works consistently across different web browsers, showcasing attention to compatibility issues in software design.

*Reflection on Learning Outcomes:*

Through this enhancement process, I aim to meet several key learning outcomes such as Through this enhancement process, I have met several key course outcomes such as employing strategies for collaborative environments in which the web-based format allows for easier sharing and collaboration, supporting organizational decision-making in computer science. The enhanced slideshow serves as a visually appealing and technically sound communication tool adaptable to various audiences. The conversion process required evaluating the original Java solution and designing an appropriate web-based alternative, managing trade-offs in the design choices. Utilizing web technologies to recreate the slideshow functionality demonstrates the ability to use modern tools and techniques in computing practices. By completing these enhancements, I will showcase my growth as a software engineer, particularly in my ability to transform and modernize existing applications while maintaining their core functionality and improving user experience.