



VCU College of Engineering

CS 25-335 | Streamline process for using AI-powered projects to help digital marketers save time in the contact creating process

Preliminary Design Report

Prepared for
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Executive Summary

This project aims to develop an AI platform for digital marketers in the travel industry that aids with content generation and expedites the process of destination travel booking for their clients. The key features include:

- A chatbot that helps travelers select their ideal hotel based on preferences like location, budget, and desired experience.
- AI-generated videos showcasing the users' desired destinations.
- Hotel recommendations based on user input.

Through the automation of these processes, the platform seeks to save marketers time, improve the end-user experience, and provide personalized recommendations based on user preferences. The project is expected to further the use of AI in digital marketing, specifically in the travel industry, while also meeting the sponsor's goal of simplifying content creation and improving user engagement.

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Section A. Problem Statement

The digital marketing space, particularly within the travel industry, faces a significant challenge in providing personalized, engaging content to potential travelers while efficiently managing the booking process. Travel marketers often face the burden of creating dynamic content, curating personalized recommendations, and streamlining processes—all of which are time-consuming and labor-intensive. In contrast, with increasing consumer demands for personal experiences, digital marketers fall behind when it comes to the volume of content creation. The lack of automation in these areas is reflected in wasted time, inconsistency in user experience, and low conversions. This affects digital marketers, who are under pressure to deliver more quality, personalized content faster, and it affects the end-users who often have fragmented experiences when navigating travel bookings. The main goal of this project is to help streamline these processes through AI-driven solutions that can further enhance the marketing and user experience through the provisioning of rapid tools that efficiently create content and book hotel stays.

The travel industry is one of the most competitive and technology has contributed immensely to influencing the trends in consumer behavior. Recently, it has been seen that travelers are drifting to personalization and immersion into experiences enabled by their desire to have tailor-made vacation plans and distinctive stays. This demand has culminated in work overload for digital marketers because they have to come up with relevant content again and again that appeals to consumers. The sponsor feels the need for an AI-enabled platform to meet these challenges. The travel industry still heavily relies on agents to do most of the heavy lifting when working with clients; travel agents create destination presentations, answer follow-up queries, and guide travelers through the booking process. The absence of AI-powered tools has introduced inefficiencies, reduced conversion rates, and overwhelmed travel agents. In this project, we automate these processes and enhance the marketing-to-booking funnel.

Ultimately, this project bridges the gap between the need for efficiency on the part of digital marketers and the personalized experience expected by the travelers themselves. The project will plug certain long-standing inefficiencies in the travel marketing process by introducing an AI-powered platform capable of integrating chatbots, AI video generation, and direct hotel booking capabilities. The ultimate goal is to make it easier on the travel agency while simultaneously making the travel planning of the end user seamless, enjoyable, and highly personalized. This will, in turn, reinforce overall user satisfaction and differentiate the sponsor from its competitors.

Section B. Engineering Design Requirements

B.1 Project Goals (i.e. Client Needs)

- To create a platform that enables digital marketers to generate content faster using AI generative technology.
- To integrate chatbot features that assist users in finding personalized travel recommendations.
- To implement AI-driven video generation to create visual content more efficiently.
- To connect users with desired travel destinations/listings with AI recommendations, reducing friction in the booking process.

B.2 Design Objectives

- The platform will have a user-friendly chatbot that helps users select hotels based on preferences such as location, budget, and occasion.
- AI video generation will enable marketers to create and customize videos quickly, helping them save time in their content creation processes.
- The website will feature a seamless path for hotel booking, allowing users to complete transactions using their AI recommendations.

B.3 Design Specifications and Constraints

- Chatbot functionality must be integrated with existing travel data and support natural language processing (NLP) for user queries.
- AI video generation should produce customizable, high-quality videos tailored to the marketing needs of various industries.
- Hotel recommendations must use an affiliate link from the travel agency.
- Cost considerations include ensuring the platform is scalable and easy to maintain.

B.4 Codes and Standards

- ISO/IEC Standard 27001 – ensures the confidentiality, integrity, and availability of information in our system
- NIST SP Standard 800-53 – provides guidelines for selecting and specifying security controls for information systems

- ISO Standard 20488 – principles and requirements for the collection, moderation, and publication of customer reviews
- W3C Standard HTML5 – establishes guidelines for structuring and presenting content on the World Wide Web

Section C. Scope of Work

The project scope defines the project's boundaries, encompassing the key objectives, timeline, milestones, and deliverables. It clearly defines the responsibility of the team and the process by which the proposed work will be verified and approved. A clear scope helps to facilitate understanding of the project, reduce ambiguities and risk, and manage expectations. In addition to stating the responsibilities of the team, it should also explicitly state those tasks that fall *outside* of the team's responsibilities. *Explicit bounds* on the project timeline, available funds, and promised deliverables should be clearly stated. These boundaries help to avoid *scope creep*, or changes to the scope of the project without any control. This section also defines the project approach, the development methodology used in developing the solution, such as waterfall or agile (shall be chosen in concert with the faculty advisor and/or project sponsor). Good communication with the project sponsor and faculty advisor is the most effective way to stay within scope and make sure all objectives and deliverables are met on time and budget.

Project Scope:

The main focus of the project is to develop a travel booking website that utilizes AI to make the greatest user experience possible.

The website will incorporate all the main features and functions of the sponsor's current website, including the "destinations", "about", "contact", "book", pages and adding pages like "Trip Planner", "Explore", and "Blog" pages. We also utilize our AI service to improve its user engagement and retention through high-quality showcase videos using AI-generated media, and a travel-oriented virtual assistant chatbot. The added blog page on the website will be used to share interesting guides on different travel destinations, with a clear path to book hotels at those destinations. We'll also be including direct links to the hotels throughout the site, so that the user can quickly set up arrangements instead of having to work through additional resort/destination sites. Finally, all these new changes and features, including the virtual assistant, will contain destination options that match the sponsor's affiliate destination options, helping support our sponsor.

Overall, this website will leverage new AI image, video, voice, and conversational text generation capabilities to enhance the user experience and better identify and support their travel needs.

Project Approach:

Our team plans to develop the final product using an iterative approach. With this approach, we start by working with the sponsor to define specific features and functions to implement for the website, and from there, create design docs/plans for implementation, develop demos and prototypes, showcase those demos and prototypes, gain feedback from the sponsor, and continue to develop our demos into fully functioning software.

As needed, we'll update whatever features we need improvements, define KPIs for each of those features, test our implementations against those KPIs, and adjust our implementations to meet our designated thresholds for them.

Throughout this project, as we meet regularly with our sponsor and advisor, we'll work to share progress, refine our designs, and ultimately complete a new AI-powered travel website to launch for our sponsor.

C.1 Deliverables

The project deliverables are those things that the project team is responsible for providing to the project sponsor. They are the things that are to be produced or provided as a result of the engineering design process. Some deliverables might include a specific number of alternative designs, required analyses to prove the design meets specifications, detailed machine drawings, functional diagrams or schematics, required computer code, flow charts, user manuals, desktop models, and functioning prototypes. A design “proof of concept” is not specific and should be more clearly defined. Academic deliverables include the team contract, Final Design Report, preliminary design report, fall poster and presentation, final design report, and Capstone EXPO poster and presentation. Provide a bulleted list of all agreed-upon project deliverables.

- **High-quality AI-generated video for each destination (At least 1 video per 1 destination)**
- **Conversational chatbot that reasons with the client to determine the best destination for the client to book.**
- **The ability to link a trip directly through our website using the Sandals Travel Advisor Referral program.**
- **Seamless UI for blog integration and video generation.**
- **Final Design Report**
- **Design Report**
- **Final Design Report**
- **Capstone EXPO Poster**

To mitigate risks associated with the completion and delivery of the project deliverables, provide an outline of the most potentially disruptive, foreseeable obstacles. Some important issues to discuss with the design team, sponsor, and faculty advisor include the following:

- What deliverables require access to campus? Which/how many students regularly access campus and are physically available to complete tasks?
 - No deliverables will need to be physically presented at campus. Everything can be worked on virtually via Discord and submitted virtually via Canvas.
- What work can be done remotely? What resources might be needed to ensure that remote work can be completed effectively (e.g., software licenses, shared drives/folders, etc.)?
 - The Github repository to share documentation and prototypes has been created and provided already. Discord is used for project communication and collaboration. The only paid software licenses we need are the OpenAI API key. The Sandals API and other APIs incorporated are free.
- What deliverables require ordering from third-party vendors? Will any components potentially require extended lead times? What can the team do to mitigate potential supply chain disruptions?
 - We'll use MiniMax's monthly subscription to mass produce AI-generated content for the site, and ChatGPT's API key for their GPT-4o Mini model until a better, cheaper model comes out. Additionally, we will use the services that Sandals offers to provide links to directly access hotel booking web pages. To mitigate disruptions there, we'll implement caching and updating at regular intervals, to ensure that even if APIs are down, the website will still be able to serve the content it needs to

C.2 Milestones

Timeline	Projections
→ 10/10	Website scaffolding complete with fine-tuned chatbot interface, video generation scaffolding coded and working
10/11 - 11/07	Chatbot becomes more conversational rather than giving recommendations after just 1 sentence, images in video generation are far more relevant and professional
11/08 - 11/21	High-quality videos are pre-generated for all destinations the site offers and placed in the “Destinations” tab, A high-quality promotion of her promo is generated in the “Blogs” tab
11/22 - 12/17	Ensure the website is functioning together and has all necessary features working on a single website.
01/20-02/04	Clean up aspects of the website to make everything more visually appealing, finish creating videos for the website.
2/05-02/20	Integrate the sponsor’s affiliate link into the website for users to book their stay and add a video promoting code 777
02/21-03/04	Finish blogs for all of the sponsor’s destinations
03/05-END	Refine chatbot, make sure everything on the website links together properly, ensure video generation is as desired, Work on bonus features (Explore page, map, video generator)

C.3 Resources

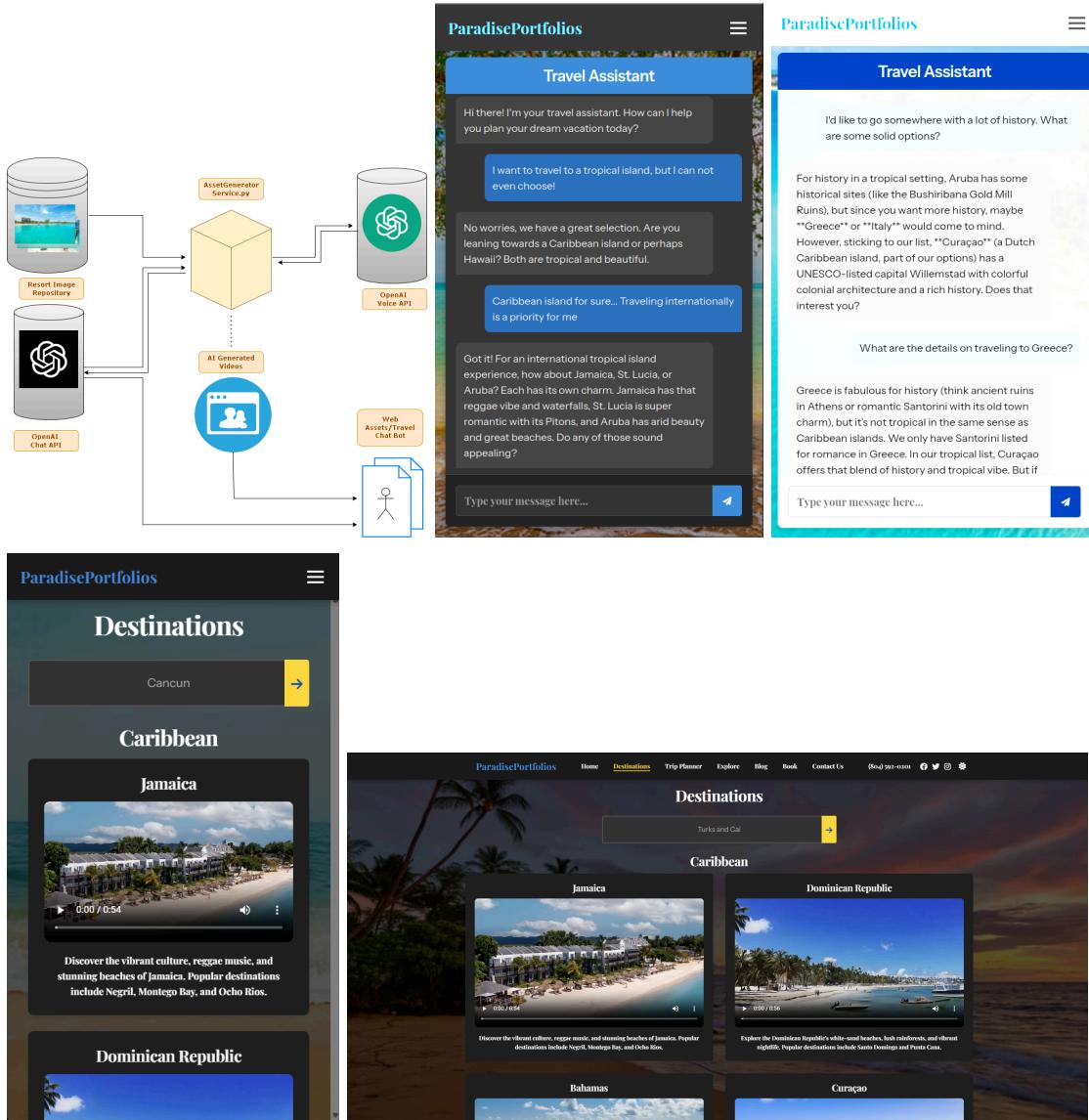
As we complete our project, we will need to use available resources to cultivate the desired features for our user interface. One of which is OpenAI’s API key for a fine-tuned version of GPT-4o Mini, trained on all allotted travel destinations, which is more than 60% cheaper than

GPT 3.5 Turbo and is competitive in user preference with GPT 4_[1]. Since this model is so cheap, \$5 is all that is necessary to access the API and it costs \$0.90 per fine-tuning run after the free period ends on October 31st, but nothing until then. Additionally, we will build the foundation in such a way that any better, cheaper model that comes out can be easily swapped in. For videos, we will use MiniMax to mass generate videos for each destination over 1 month for the price of \$75.99. We will also incorporate the affiliate link to Paradise Portfolios:

(<https://www.sandals.com/?referral=138577>) and showcase a promotion for her code to help integrate our user interface into the way the company is currently run. We will also require a website domain name so that we can make our site accessible to the public.

Section D. Concept Generation

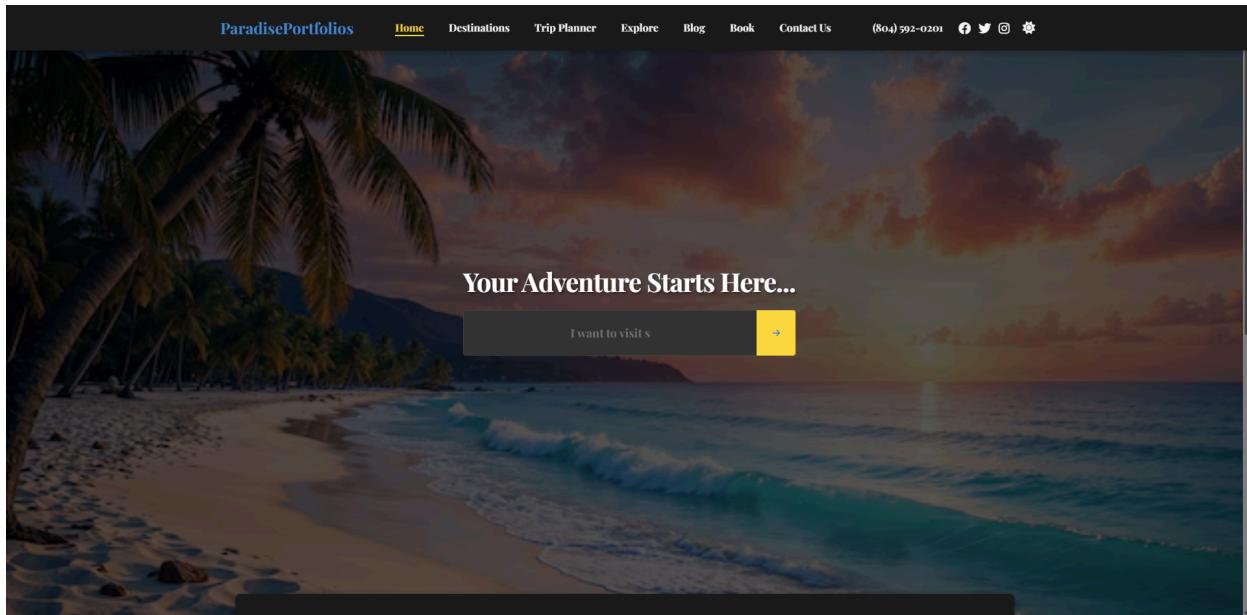
Design #1: Static Blue background



Design #2: Dynamic Background that switches across images while the user is on the site

Implemented in the background of all the images

Design #3: Integrated into the Sponsor's Website by adding/editing tabs for each component of our website



The image shows the "Travel Guides" section of the ParadisePortfolios website. The header is identical to the home page. The main content area is titled "Travel Guides" and features a search bar with the placeholder "Search for Caribbean destinations". Below the search bar are three travel guide cards: "Daytona Beach Adventures" (image of a beach), "Discover Jamaica" (image of people in a boat), and "The Beauty of the Bahamas" (image of a coastal resort). Each card has a title, a brief description, and a "Read More" button. The background of this section is a collage of various travel-related images, including a plane, a beach, and buildings.

Section E. Concept Evaluation and Selection

The following represents how beneficial each Criterion is towards our 3 designs:

	Design #1	Design #2	Design #3
Appeal	7	9	7
Implementation	8	8	7
Cost	7	7	8
Ease	9	9	8
User Accessibility	6	6	6
Total Score	37	39	37

Appeal: How the customer feels looking at the website and how that affects if they will want to return. (Can be measured by click through ratio, retention, return percentage)

Implementation: How feasible will it be to implement the changes required for the website we are aiming for, and what benefit those changes will have on the final result?

Cost: How cost effective it will be to host the server.

Ease: How easy it will be to successfully reach the final point of the project with that design.

User Accessibility: How convenient it will be for our Sponsor's clients to interact with our website.

Together, they ensure that decisions aren't made based solely on aesthetics or novelty, but also on practicality, sustainability, and user-centric value. "Appeal" ensures the design leads to measurable engagement, "Implementation" and "Ease" keep the project within realistic bounds, "Cost" keeps the solution financially viable, and "User Accessibility" ensures that the design serves all potential users effectively.

Section F. Design Methodology

Our team has structured our meeting and design process to effectively evaluate, improve, and evolve our design.

F.1 Overall Process:

For our design process, we provide new deliverables weekly, and during meetings as a team, with our client and with our advisor, identify and document new design updates, reassess and improve our overall design requirements, and verify that our design meets the needs of our client.

F.2 Design Criteria:

Our main points of measure for our design have been based on approval and disapproval of specific design attributes and functions, including quality of the AI generated content, and as we continue to progress further we'll include more concrete design criteria, and means of measuring them, including measures of usability/visual appeal using questionnaires/surveys, and user engagement and SEO through data collection.

Along with frequent and regular deliverables, consistent communication between ourselves, our client, and our advisor, and a focus on fulfilling our design objectives, our team will research and implement methods for data collection for our website's visual appeal, functionality and performance, both on standing on its own, and in comparison with our client's previous site. These metrics will be measured and evaluated using the following main testing phases:

Performance Testing:

Ensuring all assets and service integrations function and load properly through repeated use and testing of the web application for varying load levels

Usability Testing:

Ensuring that our web layout and intended user tasks align

Acceptance Testing

Gathering user feedback through surveys to confirm that the website meets the needs of both its intended users and the client.

With these strategies, we aim to develop a new and unique, well tested travel platform, showcasing AI's potential in the content creation process.

Section G. Results and Design Details

G.1. Video Generation Results:

The final AI-generated videos are designed to engage viewers in a short-form, TikTok-style format with both horizontal and vertical formats. The generated videos run approximately 30–45 seconds, incorporating narrated scripts, captions, and visually dynamic transitions derived from still images (hailuoai.video). The resolution of the videos is inherited from the quality of the source images, which are typically pulled from the sponsor's website and related Sandals/Beaches travel listings. While the imagery is clear and appealing, improvements to resolution depend on the quality of the original input images.

In terms of continuity and flow, the system creates a slideshow-like sequence of ~5-second animated clips generated from static images, producing a cohesive, digestible travel narrative video. The voiceover currently uses OpenAI's text-to-speech service, which has tone and accent features to enhance the overall listening experience for the user.

G.1.1. Efficiency and Cost-Effectiveness:

Compared to third-party AI video generation services that take 5–10 minutes or longer and offer limited customization, this in-house Python-based solution can produce a fully rendered video (both horizontal and vertical formats) in under two minutes. The improved control over script structure, image selection, and output formatting allows the sponsor to avoid costly token-based pricing structures. By using the Hailuoai.video service for image-to-video conversion at a fixed annual rate, each video's marginal cost is extremely low.

G.1.2. Iterative Development Process:

Multiple prototypes were developed. Initial versions tested OpenAI's script generation and Amazon's voiceover, followed by integration of still images sourced from free image APIs. The results were not satisfactory, prompting the team to use images

directly from Sandals and Beaches websites for more authentic and high-quality footage. The Hailuo.ai service was introduced to transform static images into dynamic clips, and iterative refinements addressed issues like awkward text-to-speech pronunciations and subtitle formatting. Over time, the script was fine-tuned, ensuring better pacing and more natural voiceover flow.

G.2. Integration with the Blog and Chatbot:

The generated MP4 files are integrated into the sponsor's blog using straightforward embedding techniques. While currently this is done manually, the seamless addition of videos to the blog's posts helps enrich content and could improve user engagement. The chatbot, which aims to provide personalized vacation recommendations, has not yet been fully integrated with the video workflow. Future updates may allow a user chatting about a destination to view the corresponding AI-generated video directly.

G.3. User Testing and Feedback:

Initial client feedback from Amanda Roberts highlighted the need for more authentic voice-overs, possibly with a Caribbean accent, and improved caption styling. Additionally, Amanda requested both horizontal and vertical video formats for repurposing across multiple social media platforms. These formats have been successfully implemented. While comprehensive user testing is pending, preliminary feedback suggests the platform's approach is promising, with end-users likely to benefit from more engaging travel content.

G.4. Scalability and Reliability:

The current workflow requires manual oversight to prevent unwanted or low-quality video outputs. Although hundreds of videos have been generated during testing, demonstrating the system's capacity for steady operation, further scalability tests would be needed for thousands of videos. Automated caching or fallback strategies for high-traffic scenarios have not yet been implemented, but are planned for future iterations.

G.5. Final Design Details/Specifications

While no formal metrics on generation consistency were logged, the team noted that each complete video set (horizontal and vertical) could be produced in under ~2 minutes once images and scripts were finalized. This rapid generation directly supports the project's goal to streamline content creation, making it feasible for the sponsor to rapidly and frugally produce a library of engaging travel videos to share on social media platforms.

H. Societal Impacts of Design

In designing an AI-driven platform to assist digital marketers in the travel industry, it is essential to recognize that the technical aspects are only part of the story. Every design choice may have ripple effects on individuals, communities, and even entire markets. Beyond functionality and efficiency, we must consider how the platform influences user well-being, cultural representation, regulatory environments, economic conditions, environmental sustainability, global relationships, and ethical standards. Taking these broader impacts into account during the early development stage can help ensure the final solution is both beneficial and responsible.

H.1 Public Health, Safety, and Welfare

Design Safety Measures:

Secure Data Handling:

Implement robust encryption and follow strict privacy guidelines to keep personal information safe. By doing so, users can browse and plan trips without the anxiety that their personal details might be misused or compromised.

Honest and Accurate Content:

The system's content moderation aims to prevent misleading, harmful, or culturally insensitive material. This approach helps maintain trust, reduce stress, and support a healthier informational environment for travelers seeking reliable recommendations.

Impacts on Public Health, Safety, and Welfare:

Though the platform is not a physical product, it still influences public welfare by protecting digital privacy and ensuring trustworthy guidance. The prevention of misinformation and the careful handling of personal data contribute to safer online experiences and foster public confidence in the service.

H.2 Societal Impacts

The platform's ability to quickly generate curated travel content may change how communities and travelers interact. It can highlight local cultures, encourage travelers to respect traditions, and create more meaningful connections between guests and hosts. On the other hand, if not managed thoughtfully, this same efficiency might standardize messaging and overlook unique cultural nuances. Striking a balance ensures that destinations retain their character while travelers feel genuinely engaged, rather than just processed through generic promotions.

H.3 Political/Regulatory Impacts

Tourism often intersects with local rules and international agreements. Privacy laws, content regulations, and fair advertising practices all shape how the platform operates. By adhering to global data protection frameworks and quickly adapting to evolving tourism policies or cultural preservation mandates, the platform reinforces lawful and responsible behavior. In this way, the tool can complement efforts by governments and advocacy groups seeking sustainable growth in travel sectors, rather than clashing with political or regulatory aims.

H.4 Economic Impacts

Streamlining content creation and enhancing visibility for various destinations can shift market dynamics. Smaller marketing teams may gain ground against larger rivals, thanks to lower barriers to producing professional, impactful content. Some traditional roles might change as AI takes over repetitive tasks, directing human creativity toward strategic decisions. While this can invigorate competition and innovation, it also requires industries and workers to adapt, possibly encouraging new job categories focused on managing AI tools or analyzing emerging travel trends.

H.5 Environmental Impacts

Though the platform itself is digital and not a heavy polluter, it still consumes computing resources that contribute to its energy footprint. Choosing efficient cloud services and optimizing the code can help minimize these effects. Additionally, by providing balanced recommendations—steering tourists toward less crowded destinations or off-peak seasons—the system might indirectly reduce over-tourism's environmental strain. If implemented thoughtfully,

it can encourage more sustainable travel patterns, rather than funneling everyone into the same hotspots.

H.6 Global Impacts

Travel spans borders, and so does this platform's influence. By granting equitable exposure to lesser-known destinations, it can diversify tourist flows and foster cultural exchange. As more travelers discover new places, the platform can broaden global perspectives and support local economies not usually on a traveler's radar. Still, if the system inadvertently favors popular locales due to hidden biases, it could reinforce existing global imbalances. The goal is to ensure that the tool amplifies positive global relations rather than entrenching disparities.

H.7 Ethical Considerations

Ethically, transparency is vital. Users should know if recommendations are shaped by promotions or if certain locations receive special visibility. The platform must respect privacy, avoid cultural stereotyping, and refrain from pushing manipulative marketing tactics. Ethical design means consistently upholding integrity—ensuring data is used responsibly, respecting local customs, and providing honest guidance. By adopting clear disclosure practices and ongoing reviews of the AI's outputs, the platform can maintain ethical standards that honor users' trust and uphold the dignity of destinations and communities worldwide.

Section I. Cost Analysis

In total, we spent around \$205 in the process of creating all of the features which are now displayed on the website.

Service	Cost
OpenAI API	\$5 covers it for the development phase, would want far more (\$200) to cover user costs
MiniMax	\$200 on videos generated for the destinations tab and the video generator bot
OpenAI training	\$0.90 per run, should only end up running like 5 times
Elevenlabs voice call	about \$15 per hour of calling which costs based on the usage by her clients

\$ 94.99 paid on Nov. 30, 2024

Description	Qty	Unit price	Amount
Unlimited Subscription	1	\$ 94.99	\$ 94.99
Nov. 30 - Dec. 30, 2024			
		Subtotal:	\$ 94.99
		Total:	\$ 94.99
		Amount paid:	\$ 94.99

Section J. Conclusions and Recommendations

Current code for video generator prototype, fine-tuned chatbot, and blog pages:

<https://github.com/VCU-CS-Capstone/CS-25-335-Streamline-AI-Powered-Projects/tree/master/src>

Link to generated videos repository:

<https://drive.google.com/drive/u/5/folders/1vLKTO8v-dfyIL-SraUU-SBEsvg0ZiqnY>

J.1. Meeting Project Goals:

The project successfully met the following core objectives:

- **Streamlining Content Creation:**
 - A single Python script can generate a fully produced travel video within minutes, significantly reducing the time and cost compared to third-party AI video services.
- **Enhancing User Engagement:**
 - By showcasing dynamic short-form videos on the blog, viewers are presented with visually appealing content that can better hold their attention.
- **Personalized Recommendations:**
 - Through integration with an AI chatbot, users can receive vacation suggestions tailored to their preferences, eventually linking those recommendations to engaging videos for a richer user experience.

J.2. Lessons Learned and Challenges Overcome:

The most significant challenge in our project was identifying and integrating the right APIs and services. Once the team became familiar with the APIs for text-to-speech, image-to-video conversion, and travel data retrieval, the rest of the pipeline fell into place. The process revealed how critical it is to maintain control over each stage of video generation, rather than relying solely on third-party tools with limited customization options.

J.3. Future Improvements:

Continuing this project next semester, these are the main enhancements that could be made:

- **Advanced Voiceovers:**

- Implementing more natural, regionally-accurate accented voice-overs to match the featured destinations.

- **SEO:**

- Researching and implementing certain keywords for vacations, traveling, destinations, beaches, sandals, etc on the final website.

- **Automated Integration:**

- Automating the entire process (from fetching destination data to embedding the final videos on the website) would reduce manual intervention and further streamline operations.

J.4. Sustainability and Maintenance:

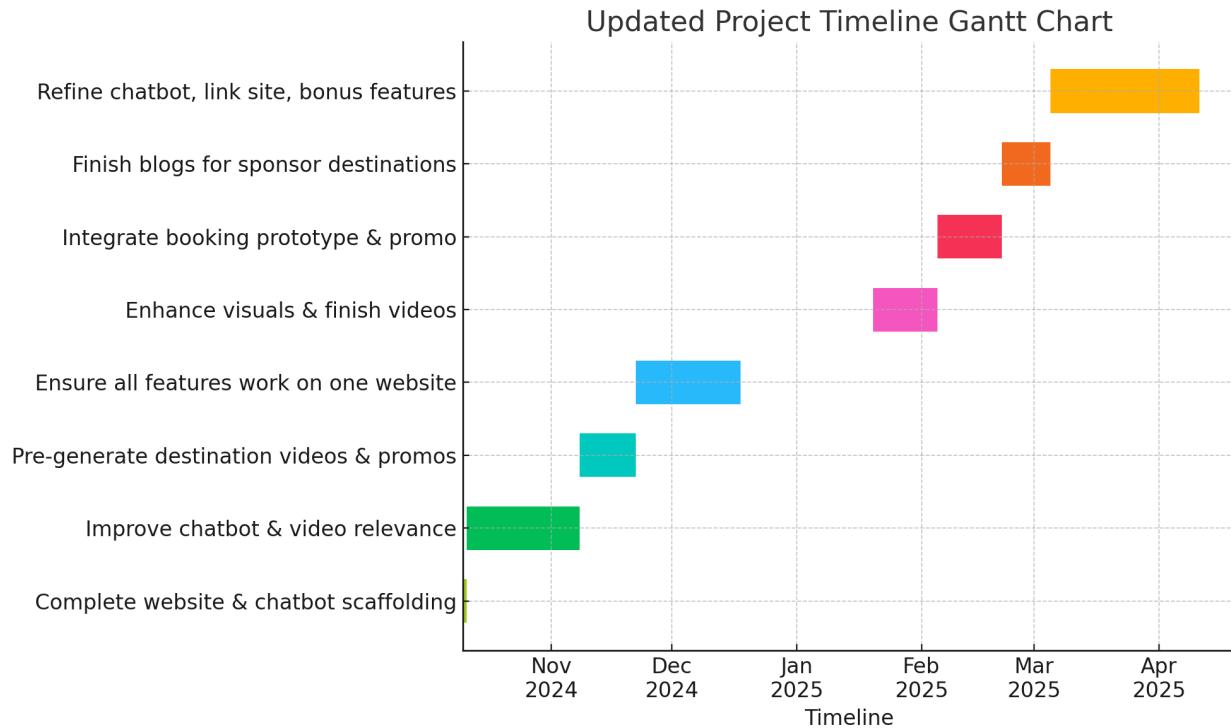
Currently, videos are produced on demand, with manual checks to ensure quality. Long-term maintenance could involve periodically updating the model with new destinations, automating video embedding, and exploring advanced caching or async queue systems for scalability. The underlying architecture is flexible enough to adapt to industries beyond travel, with only minor changes to prompts and input image sources.

J.5. Final Thoughts:

Overall, the project provides a robust foundation for AI-driven content creation in the travel affiliate-marketing space. It delivered efficient video generation, integrated reasonably with a blog platform, and demonstrated potential for even greater personalization and automation in the future. By continually refining voiceover quality, streamlining workflows, and adopting a

user-friendly interface, the solution could evolve into a competitive tool that not only serves the travel industry but can be repurposed for various digital marketing scenarios.

Appendix 1: Project Timeline



Appendix 2: Team Contract

Step 1: Get to Know One Another. Gather Basic Information.

Team Member Name	Strengths each member bring to the group	Other Info	Contact Info
Noah Davis	Organization, leadership	Strongest Languages: <i>C++, Java, VBA</i>	davisne2@vcu.edu
Marcio Tejeda	Web dev, accounting	Strongest Languages: <i>Java, JavaScript, Python.</i>	tejedamr@vcu.edu
David Newman	Previous project experience, web dev, sql	Strongest Languages: <i>Python, SQL, ReactJS</i>	newmand3@vcu.edu

Ethan DuBrueler	Knowledge of AI tools + YouTube AI automation videos	Strongest Languages: Java, Python, C++, SQL	dubruelerem@vcu.edu
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Other Stakeholders	Notes	Contact Info
Faculty Advisor - Caroline Budwell	We will meet on Zoom on Thursdays at 10 am.	ccbudwell@vcu.edu
Sponsor - Amanda Roberts	We will meet twice a month on Thursday at 6 pm.	Amanda@thevacationchic.com

Step 2: Team Culture. Clarify the Group's Purpose and Culture Goals.

Culture Goals	Actions	Warning Signs
Open Communication	<ul style="list-style-type: none"> - Actively notify the group on the status of project, responsibilities, or bug/error issues. - Weekly Status Updates on discord from each one. 	<ul style="list-style-type: none"> - Miss weekly status update, receive notification to notify group of status.
Innovation and Creativity	<ul style="list-style-type: none"> - Allocate time for creative thinking - Encourage calculated risk-taking and view failures as learning opportunities 	<ul style="list-style-type: none"> - Over-reliance on traditional solutions - Instant dismissal of out of the box ideas
Teamwork and Collaboration	<ul style="list-style-type: none"> - Use collaborative software like Canvas, Discord, and Zoom - Use collaborative decision making when deciding which path to take 	<ul style="list-style-type: none"> - Resistance to helping colleagues or sharing workloads - Frequent miscommunication or information hoarding

Step 3: Time Commitments, Meeting Structure, and Communication

Meeting Participants	Frequency Dates and Times / Locations	Meeting Goals Responsible Party
<i>Students Only</i>	<i>As needed on our Discord voice channel</i>	<i>Update group on day-to-day challenges and accomplishments while brainstorming forecasts for where and how the project will reach its next stage. Noah will record these so any meaningful segments can be added to the weekly progress reports and for future reference.</i>
<i>Students Only</i>	<i>Thursdays following the Zoom call with Advisor</i>	<i>Actively work on the project as a group and assist any members who are in a roadblock. Ethan will take any meaningful pictures/screenshots as documentation for the week.</i>
<i>Students + Faculty advisor</i>	<i>Every Thursday at 10 am on Zoom</i>	<i>Update faculty advisor on project status and find answers to our questions. David will record these meetings for future reference</i>
<i>Project Sponsor</i>	<i>Thursdays from 6 to 7 twice a month.</i>	<i>Update project sponsor of all advances since previous meeting and make sure we are on the right track (Marcus will scribe and create meeting agenda; Ethan will present preliminary prototype)</i>

Step 4: Determine Individual Roles and Responsibilities

Team Member	Role(s)	Responsibilities
<i>Noah Davis</i>	<i>Systems Engineer</i>	<i>Develop robust systems for quality assurance and maintain high standards of quality throughout all processes.</i>
<i>David Newman</i>	<i>Systems Engineer</i>	<i>Analyze Client initial design specification and lead establishment of product specifications; monitor, coordinate and manage integration of subsystems in the prototype; develop and recommend system architecture to manage product interfaces.</i>

<i>Marcio Tejeda</i>	<i>Project Manager</i>	<i>Keep track of goals, delegate tasks, communicate with stakeholders and team members.</i>
<i>Ethan DuBrueler</i>	<i>Manufacturing Engineer</i>	<i>Oversee and help plan the layout and blueprint for the project and work to ensure everything runs smoothly in the time window.</i>

Step 5: Agree to the above team contract

Team Member: Marcio Tejeda

Signature: Marcio Tejeda

Team Member: David Newman

Signature: David Newman

Team Member: Ethan DuBrueler

Signature: Ethan DuBrueler

Team Member: Noah Davis

Signature: Noah Davis

References:

- [1] *GPT-4O Mini: Advancing Cost-Efficient Intelligence*, OpenAI, 18 July 2024,
openai.com/index/gpt-4o-mini-advancing-cost-efficient-intelligence.