

Masters with Specialization in Multimedia (MM) Program

Computing Science Department

University of Alberta

Multimedia Program Project Report

Date:

Choose the correct enrolled code:

MM807 _____ MM808 _____ MM809 _____ MM810 _____

- **Choose either procedure 1 or 2 below for MM807 or MM808 at the discretion of the internship supervisor**
- **Procedure 1 is mandatory for MM809 and MM810**

Upon the completion of MM807, MM808, MM809 or MM810, student submits a Final Report.

- a) Signatures of both student and internship supervisor are required on the report. This is to ensure that there is no conflict with the Non-Disclosure Agreement and copyright regulations that is imposed by the supervisor's institution.
- b) The Report needs to be submitted to the MM instructor **within 5 working days before the completion** of the respective MM8xx internship course enrolled.
- c) The report needs to summarize the tasks completed based on the agreed milestones on the Approval Form. Without violating the non-disclosure agreement and copyright regulations of the supervisor's institution, student should submit a reasonably descriptive report, justifying why the student should be awarded CREDIT for the internship placement.

1. Separate Attached Report (at least 4 pages) plus Section 2 below

2. Mandatory Short Form (fill in this section, sign and submit) Mandatory

Student Name:

Internship Period from: _____ to: _____

Internship Supervisor Name:

Internship Supervisor Company/Institution:

Department:

Internship Supervisor Job Title:

Internship Supervisor Email:

Internship Company Website:

Project Title:

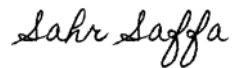
1. List all the milestones, expected outcome and deadlines as defined in the Approval Form.
2. For each task listed in 1 above, describe work completed. If not achieved, explain why and suggest solution.

Attach separate sheet if necessary. Each additional sheet should be numbered, and have the student's and supervisor's signatures.

Signatures of Student, Internship Supervisor and MM Instructor are required.



Student Signature



Internship Supervisor Signature

MM Instructor Signature

Date signed:

Multidisciplinary UI/UX Approach to Diverse Multimedia Projects

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Abstract—With rapid technological advancements, the demands in the digital media design job market are constantly evolving, presenting challenges for professionals to keep pace. This report explores how the combination of my previous work experience in UI/UX-related fields and my current studies in the Master’s in Computing Science multimedia program equips me with the skills to adapt and innovate in response to these demands. Focusing on the Canadian job market, particularly Alberta, the report demonstrates how my multidisciplinary expertise aligns with current industry needs, highlighting the value of a comprehensive skill set that bridges practical experience with academic learning.

I. INTRODUCTION

Building on my previous report, which explored how digital multimedia applications can enhance the event management sector, this report extends the discussion to examine my role within Canada’s digital design job market. Last semester’s C-Tribe Festival case study illustrated how digital multimedia can elevate event management in Alberta, particularly in Edmonton, by integrating advanced technologies and innovative design strategies. This study not only demonstrated the potential for improved event execution but also highlighted my skills and expertise as a software engineer and designer, with National Occupational Classification (NOC) 21231—an in-demand occupation according to Alberta’s ALIS website [2]. This alignment underscores the relevance of my work within the current job market, contributing to the ongoing development of the industry in the region. This semester, I have had the opportunity to expand my expertise further through contributions to various projects, applying a range of user experience and interface design skills tailored to unique project demands. Through research on design-focused role requirements specific to Alberta, this report will demonstrate how my extensive work experience, combined with my Master’s studies in Computing Science Multimedia at the University of Alberta and full-time internship experience at Ctribe Society, equips me to meet these demands. By showcasing the skills applied in my internship and their relevance to industry needs, this report aims to showcase the value of a multidisciplinary approach in digital media design to address the shifting needs of Canada’s tech landscape, particularly in Alberta.

II. APPROACH AND METHODOLOGIES

A. Job Market Research

According to the Job Bank Canada report [3], the employment outlook for Software engineers and designers (NOC 21231) in Alberta is promising for the 2023-2025 period. The province is home to over 3,000 technology companies, with a significant concentration in Calgary, fostering a robust tech ecosystem that spans digital, digital health, life sciences, and artificial intelligence sectors. Around 5,750 software engineers and designers are employed in Alberta. The field shows a positive employment outlook and moderate growth projections. The workforce is predominantly male (84%), with most professionals holding at least a bachelor’s degree (54%) or higher education (24%). Key employment sectors include computer systems design services (55%), information and cultural industries (7%), and wholesale trade (6%). The region’s commitment to innovation is further supported by record-breaking venture capital investments and initiatives. This dynamic environment suggests a positive trajectory for software engineer and designer professionals in Alberta over the next three years.

Specifically for UI/UX professionals who have a background in computing science, this role combined with technical understanding has an advantage due to the versatility of their skill sets, which can fit into several NOC categories. For instance, NOC 21233 (Web designers and developers) explicitly includes specialists focused on user-centric web experiences. Additionally, roles under NOC 21232 (Software developers and programmers) often involve creating interactive digital experiences, aligning closely with UI/UX work. NOC 21231 (Software engineers and designers) also encompasses aspects of this field, especially for complex software systems requiring intuitive user interfaces. Furthermore, NOC 52120 (Graphic designers and illustrators) relates to the visual elements crucial in UI/UX design.

As the technology sector in Alberta continues to expand, professionals in software engineering and design roles must focus on developing specific traits that enhance their employability. The competitive job market demands individuals who

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not only possess technical skills but also demonstrate adaptability, strong communication, and a user-centered mindset [1]. By highlighting key attributes that align with industry needs, candidates can effectively position themselves for success in various roles, including Software Engineers, Web Designers, Multimedia Developers, and Graphic Designers. Below are several essential traits that can significantly boost employability in these fields.

- **Technical Proficiency**

Employers emphasize the importance of competent technical skills in software, design tools, and programming languages relevant to UI/UX roles. For professionals in this field, expertise in front-end technologies like HTML, CSS, and JavaScript is highly valued, as these are foundational for creating responsive and interactive designs. Proficiency in frameworks is often sought, as these tools streamline the development of complex user interfaces. Additionally, advanced knowledge of industry-standard UI/UX tools such as Figma is critical for creating wireframes, prototypes, and visual designs that align with user needs and business goals. Prototyping tools are essential for iterative testing and presenting user flows, ensuring designs meet usability standards. Motion design platforms also increasingly important in creating engaging animations and micro-interactions, enhancing the overall user experience. Mastering these technical competencies ensures not only employability but also the ability to innovate and adapt to industry trends, which is essential in the dynamic and user-focused domain of UI/UX design.

- **Multidisciplinary Knowledge**

Professionals with a multidisciplinary skill set are highly valued, as they can integrate diverse areas of expertise to address complex challenges. For example, knowledge of human-centered design principles allows designers to apply insights from psychology and behavioral sciences to create user-centric solutions. Similarly, the ability to collaborate across domains, such as engineering, marketing, and operations, ensures that user experiences align with broader business objectives. Moreover, understanding technical concepts like programming language for web applications or animation nuances for multimedia projects enhances a designer's versatility. This multidisciplinary approach empowers professionals to deliver innovative and practical solutions, making them invaluable assets in any team.

- **Adaptability to Trends**

Adapting to technological advancements is essential for staying relevant in design and technology roles. Expertise in emerging technologies such as Artificial Intelligence (AI) and its applications in predictive user experiences or smart solutions can set candidates apart. Similarly, blockchain and Web 3.0 technologies are becoming

increasingly significant, particularly in creating secure, decentralized, and interactive applications. Familiarity with augmented reality (AR), virtual reality (VR), the Internet of Things (IoT), and machine learning adds further value, allowing professionals to offer cutting-edge solutions. Employers seek individuals who not only stay updated with these trends but can also apply them innovatively to meet evolving industry demands.

- **Project Management Abilities**

Project management plays a vital role in ensuring the successful coordination of design and development efforts. Proficiency in methodologies such as Agile, including frameworks like Scrum or Kanban, demonstrates a professional's ability to manage workflows efficiently. The ability to allocate resources judiciously, including time, team capacities, and budgets, is equally critical. Furthermore, aligning project deliverables with client and stakeholder expectations showcases a candidate's leadership and organizational skills. These competencies not only enhance employability but also ensure that projects are delivered successfully, even in dynamic and complex environments.

- **Team Collaboration**

Collaboration within diverse teams is crucial in real-world scenarios, where professionals often work with stakeholders from varied backgrounds and priorities. Effective communication and conflict resolution skills enable professionals to navigate differing perspectives while maintaining project momentum. Additionally, the ability to balance stakeholder needs—such as business objectives, technical feasibility, and user preferences—ensures that all aspects of a project are addressed. Proficient interpersonal skills combined with the ability to integrate feedback constructively are key to thriving in multidisciplinary team environments.

- **Portfolio Demonstration**

A well-crafted portfolio is a critical tool for demonstrating a professional's technical and creative capabilities. Including detailed case studies that outline challenges, methodologies, and solutions provides insights into a designer's problem-solving process. Showcasing a variety of projects—ranging from personal to professional—demonstrates versatility and adaptability. Highlighting impactful outcomes, such as increased user engagement or improved system efficiency, further validates a candidate's expertise. A strong portfolio, combined with clear documentation of past successes, significantly boosts employability by offering tangible evidence of a professional's ability to deliver results.

B. Skill Assessment Analysis

Through the two semesters of internship opportunities I have been given, I have gained valuable real-world

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experience that aligns closely with Canadian market employability standards. Below is a breakdown of key projects that serve as supporting evidence of the skill set and portfolio I can contribute to potential employers.

1) *Collision Huddle*

As a continuation of the Tribe Festival event management platform, the Collision Huddle feature aims to enable users to connect with one another. By indicating their discussion preferences, this platform allows users to schedule meetings and connect both physically and virtually. In this project, my role involved conducting competitor analysis, designing the user interface and user experience flows from scratch, collaborating closely with developers, creating a clickable prototype to demonstrate the initial flows for the Black Music Professional use case, and implementing iterative improvements based on user feedback.

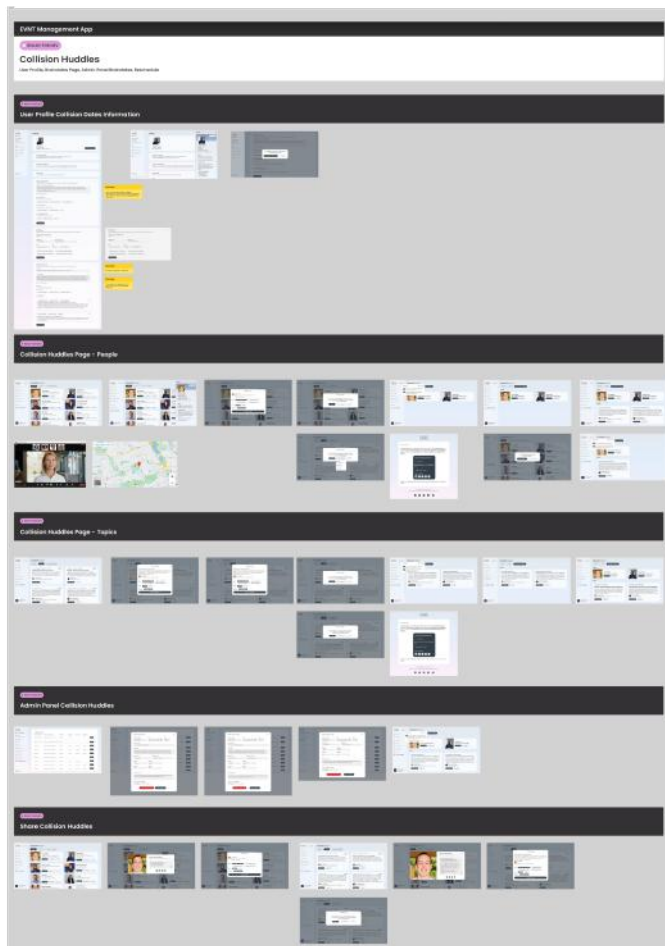


Fig. 1. Collision Huddle Flow

Skills Demonstrated :

- **Competitor Analysis:** Analyze how other competitors develop their user interface and experience..
- **UI/UX Design:** Established the foundational user flows, emphasizing user-centric design principles.

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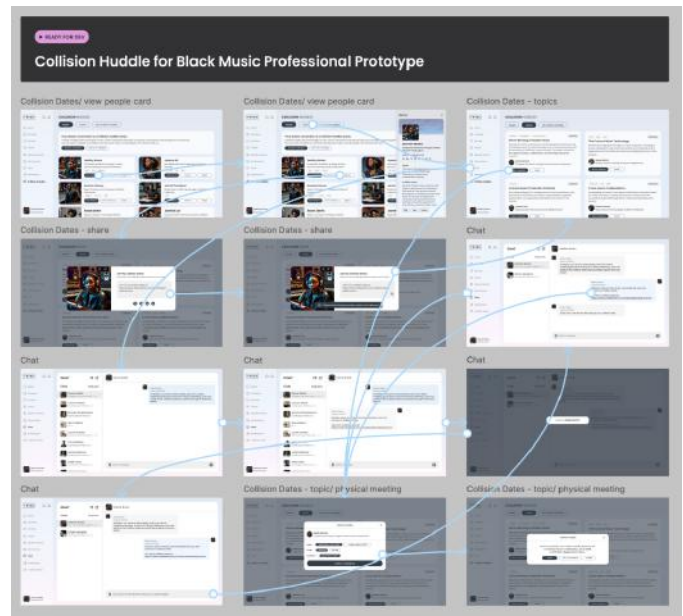


Fig. 2. Collision Huddle Prototype for Black Music Professional

- **Prototyping:** Developed interactive prototypes using Figma for usability evaluation.
- **Usability Testing:** Identify user pain points and refine the design.
- **Iterative Design:** Integrated feedback loops to enhance user experience.

Relevance to Employability:

These skills align with the market demand for expertise in user-centered design, crafting clickable flow prototypes and iterative methodologies based on usability testing.

2) *Black Talent Initiative (BTI)*

Replicating the success story of the Ctribe festival use case, this is aimed to be the pilot project for white-labeling the event management platform for other event use cases. While the primary intention is to reskin the current platform, several additional new functionalities are also introduced in this pilot project, namely the speaker bureau feature that enables users to view available speaker profiles and book them accordingly through this platform.

Skills Demonstrated :

- **UI/UX Design:** Developed an intuitive interface with a focus on user convenience.
- **Client's Requirements Alignment:** Designed the user interface in direct response to client specifications, ensuring that the final deliverable reflected their needs and preferences.
- **Adaptive and Customizable Framework:** Created a flexible design framework that allowed the product to function as a white-label solution, enabling customization for various use cases without compromising the integrity of the original design.

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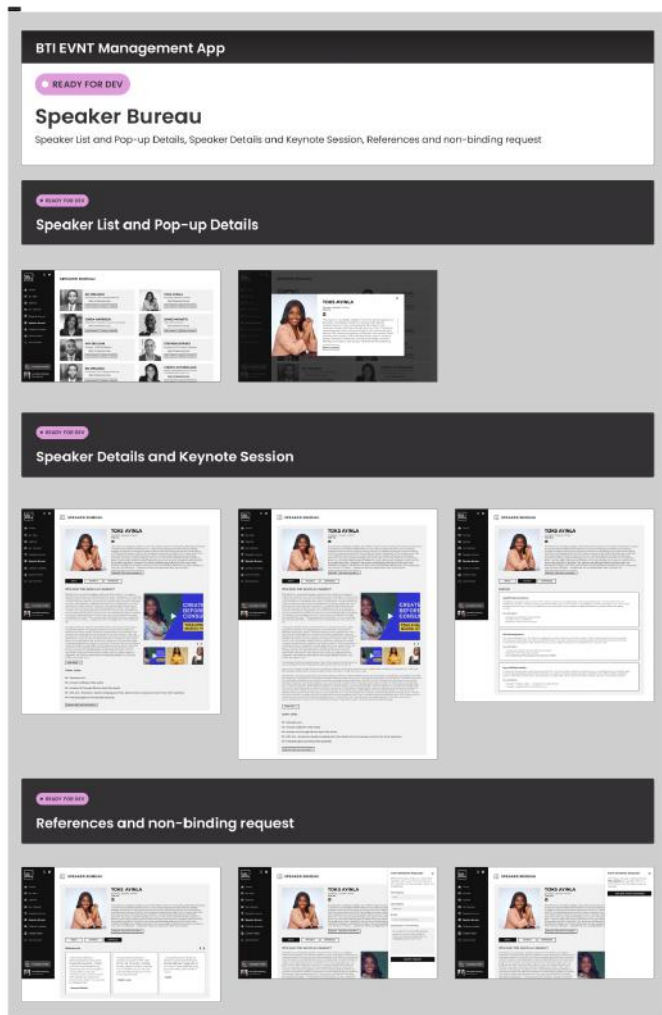


Fig. 3. BTI Speaker Bureau

Relevance to Employability:

This Black Talent Initiative white-label project demonstrates the adaptability of the platform's design solution to other event use case scenarios by leveraging adaptive frameworks to deliver scalable and customizable solutions that meet client requirements. These capabilities align with industry expectations for UI/UX designers to create versatile products tailored to the needs of diverse stakeholders.

3) CT Network

For the CTNetwork, I created a single landing page to showcase the key functionalities of the event management platform. Additionally, I contributed to the web frontend development using the Webflow platform and custom code in HTML, CSS, and JavaScript, ensuring the website looks good on both desktop and mobile viewports.

Skills Demonstrated :

- **Frontend Development:** Implemented the web frontend using HTML, CSS, and JavaScript for the CT Network

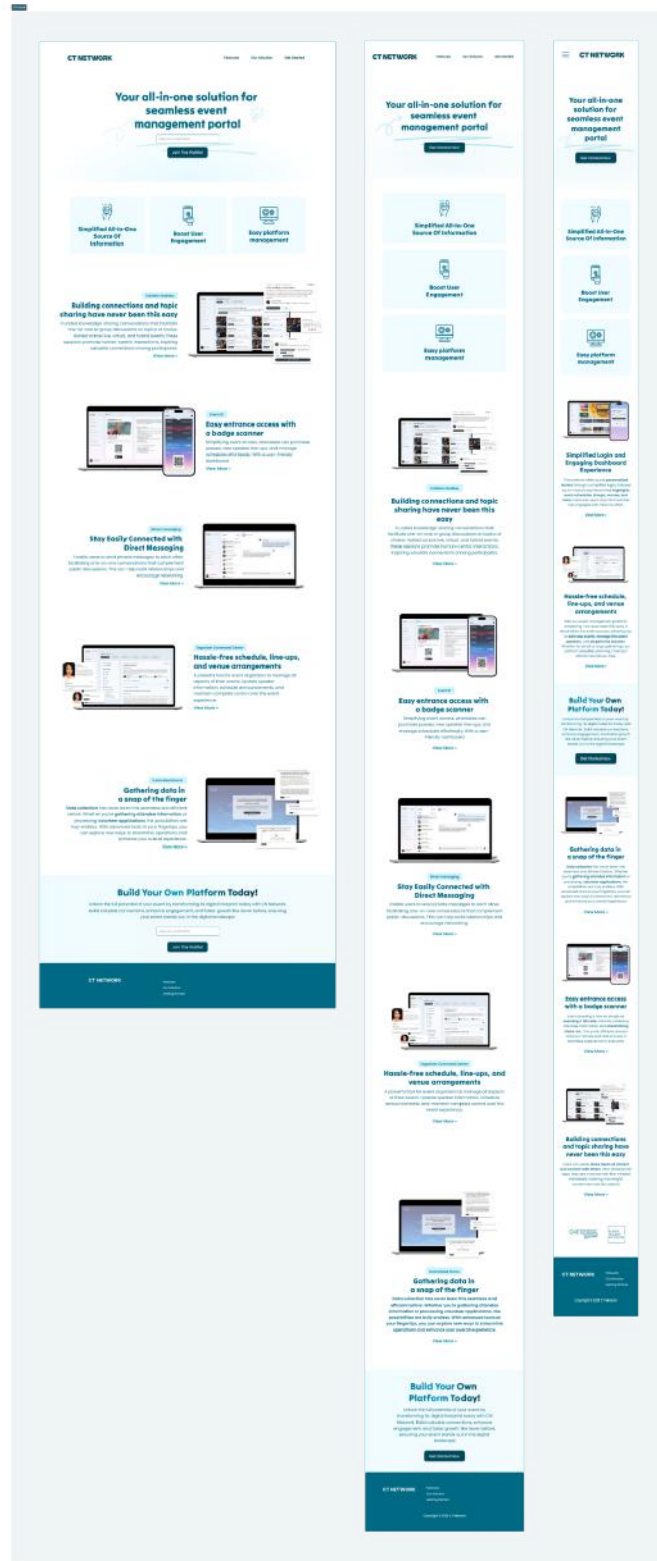


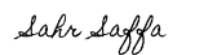
Fig. 4. CT Network Landing Page

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landing page.

- **UI/UX Design:** Designed components that balanced functionality with visual aesthetics.
- **Responsiveness:** Ensured layouts performed seamlessly across devices, a critical skill for modern web design.

Relevance to Employability:

Proficiency in web frontend development and creating reusable design systems is highly valued for UI/UX professionals handling scalable and adaptable digital products.

4) Data Trei

In this Data Trei project, I mainly contributed by gathering competitor analysis, providing persona-based customer journey maps for junior and senior cybersecurity analysts to capture possible opportunities, and creating product animations for the landing page based on points captured in the sales playbook. Also worth mentioning is my contribution to providing adjustable chart data visualizations for some presentation decks. Data visualization is highly beneficial for practical user interfaces, especially when dealing with data correlations.

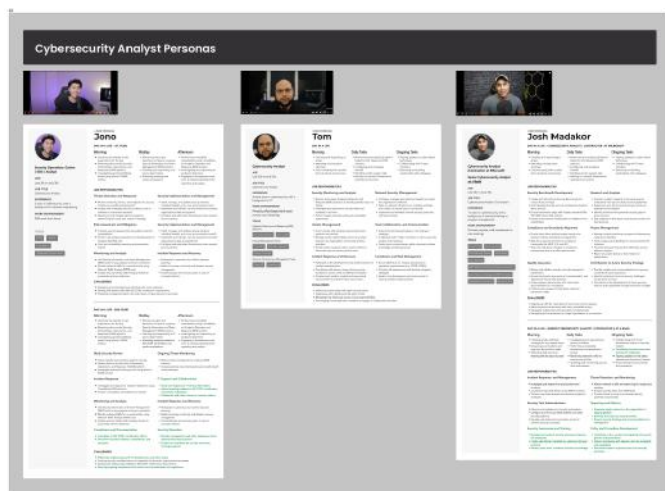


Fig. 5. Cybersecurity Analyst Personas

Skills Demonstrated :

- **Personas Mapping:** These personas were derived from several YouTube channels featuring cybersecurity analysts elaborating on their daily lives and professional experiences. Despite the limited resources and the absence of direct user interviews, they can serve as a basis for mapping opportunities.
- **Customer Journey Mapping:** Mapped user journeys based on the captured personas to illustrate user pain points, needs, and potential opportunities for product features that could be offered.
- **Motion Design and Animation:** Designed animations using tools like Figma animation to enhance user engagement.

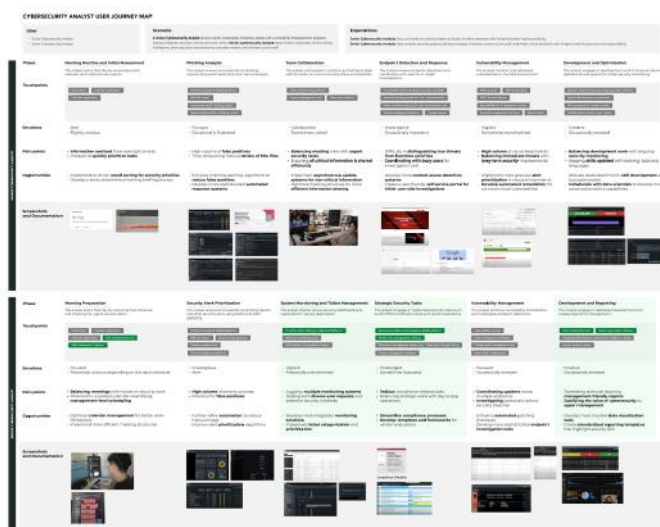


Fig. 6. Cybersecurity Analyst Customer Journey Map

- **Data Visualization:** Providing adjustable chart data visualizations that encompass metric numerical values in the presentation deck.

Relevance to Employability:

This Data Trei project demonstrates some of my key employability skills, including persona and customer journey mapping to address user pain points and identify opportunities. The creation of engaging animations and adjustable data visualizations for presentation design highlights my technical expertise and creative problem-solving. These contributions showcase adaptability, practical UI/UX skills, and the ability to convey complex information effectively.

5) Coala Energy

As of this report's creation, this project is still in its very early stages, where my contributions include gathering competitor analysis and defining UI/UX requirements. Although the progress is not yet measurable, it demonstrates how design and development can help businesses, particularly in Alberta, promote their products.

Skills Demonstrated :

- **Competitor Analysis:** Identified key market trends and user expectations.
- **Wireframing:** Created wireframes in Figma to represent initial workflows.
- **Sitemap:** Developed a cohesive early-stage flow that informed subsequent design stages.

Relevance to Employability:

Competitor analysis and early-stage planning are critical skills for UI/UX professionals tasked with aligning design decisions with market expectations.

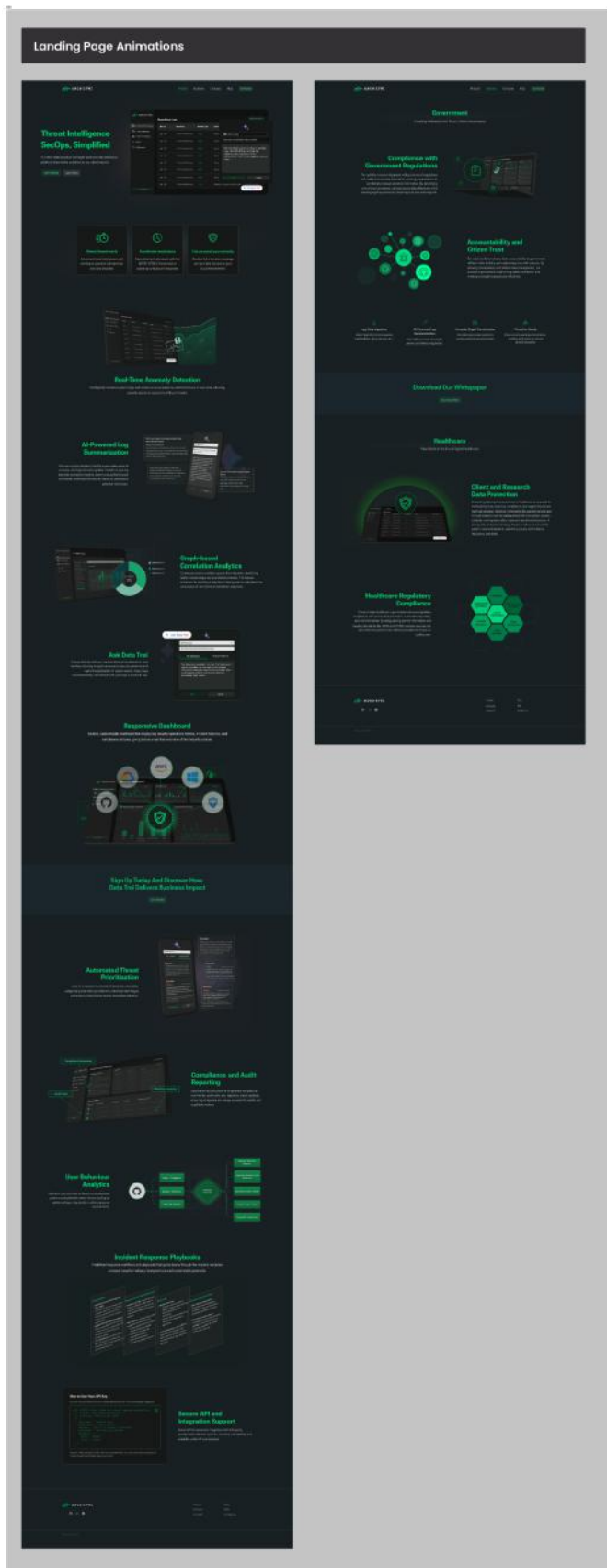


Fig. 7. Landing Page Animations

6) University of Eastern Polytechnique

Although the continuity of this project remains on hold as of this report's release, I contributed to conducting competitor analysis and providing a preliminary requirement analysis to define the product's core functionalities and development pathways. I outlined initial key requirements to align with institutional objectives, categorizing them into high-priority improvements, enhancements addressing stakeholders' pain points, and features providing additional value to encourage frequent use. While the process is still in its early stages, this case demonstrates the potential to leverage my skillset in project management areas. It also highlights the relevance of website-related needs across various industries, including educational institutions, as depicted in Fig. 8.

Skills Demonstrated :

- **Requirement Analysis:** Documented and structured stakeholder needs, providing clarity on the project's scope and goals.
- **Project Management:** Facilitated the planning process by prioritizing tasks and organizing workflows for effective execution.
- **Team Alignment:** Established a shared understanding among team members regarding the project's objectives and deliverables. This initial assessment served as a foundation for aligning the team on tasks and expectations. Collaborative feedback was actively encouraged to ensure everyone was on the same page and agreed on the desired outcomes.

Relevance to Employability:

This project highlights employability skills such as requirement analysis to define project goals, project management to prioritize tasks and organize workflows, and team alignment to foster collaboration. These skills are essential for delivering effective solutions across industries, including education and technology.

7) Last semester's C-Tribe Festival event

Additionally, to recap some other important points from my involvement in the previous C-Tribe Festival event, I also contributed to the management of attendance throughout the various sessions held in Edmonton. This responsibility allowed me to directly engage with participants, ensuring smooth registration and accurate tracking of attendance. The images depicted in Figures 9 and 10 illustrate my ability to effectively communicate with diverse groups and demonstrate proficient interpersonal skills, which were critical in a real Canadian workforce scenario. These experiences not only highlight my proficiency in handling logistical and organizational challenges but also emphasize my readiness to apply practical solutions in dynamic environments, alongside my technical expertise and academic achievements.

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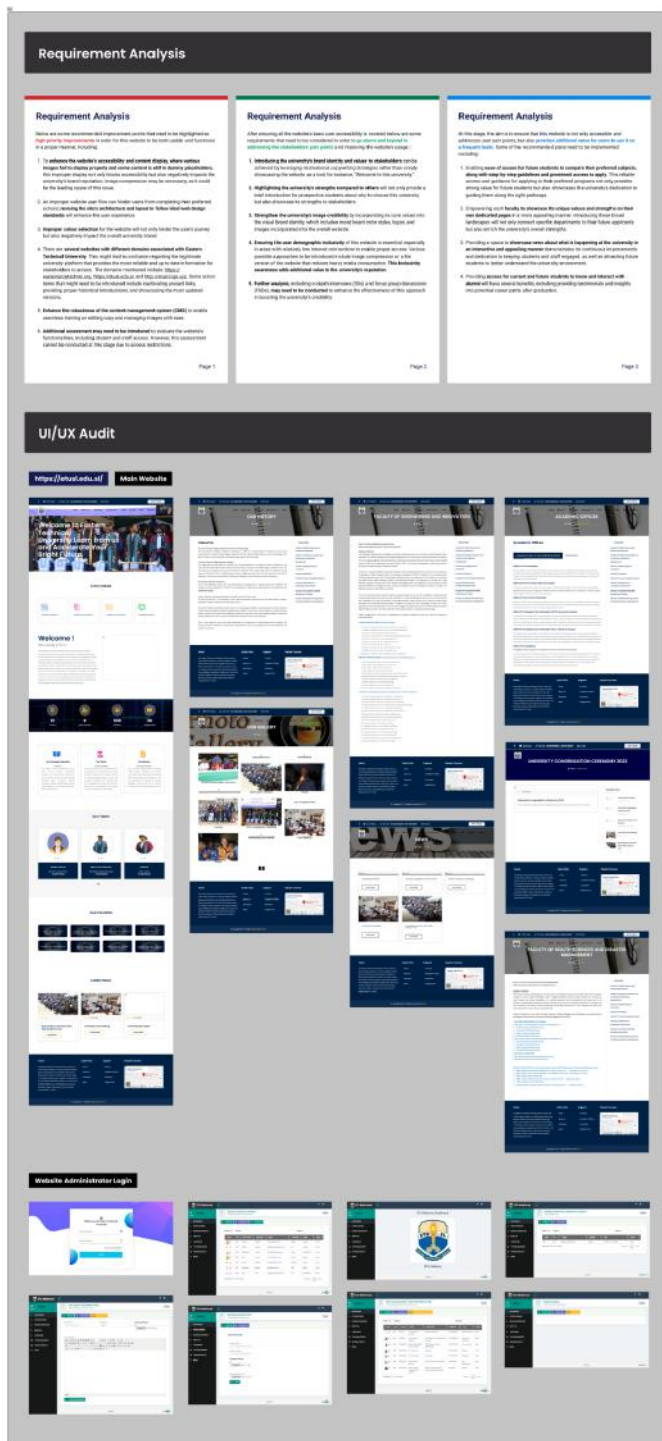


Fig. 8. UI/UX Audit and Requirement Analysis

Skills Demonstrated :

- **Communication Skills:** Demonstrated effective communication by engaging with a diverse group of participants, ensuring clear and smooth interactions throughout the event.
- **Interpersonal Skills:** Showcased proficient interpersonal abilities by building rapport with attendees and collaborating with team members to manage logistical tasks.

Relevance to Employability:

The skills demonstrated in effective communication, collaboration, and interpersonal engagement directly align with key employability traits in the tech and design sectors. These include customer engagement, team coordination, and problem-solving, all of which are essential for professionals in fields such as UI/UX design and project management. The ability to handle practical challenges while applying technical and academic knowledge showcases readiness to meet the dynamic demands of the Canadian workforce.



Fig. 9. C-Tribe Festival Event Attendance Registration



Fig. 10. C-Tribe Festival Event Attendance Registration

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III. CONCLUSION

This report has comprehensively assessed the Canadian job market for roles closely aligned with my professional expertise, such as UI/UX design, multimedia development, web design, and related fields. It highlights the critical requirements sought by Canadian employers, including technical skills, adaptability to emerging trends like Artificial Intelligence (AI) and a multidisciplinary approach to problem-solving. By mapping these insights to my skillset and project portfolio, this report underscores my readiness to meet the evolving demands of the industry.

My past work experience in UI/UX-related fields has provided me with a reliable foundation in designing user-centric solutions, prototyping, and iterative testing. This foundation has been further strengthened through my academic pursuit of a Master's degree in Computing Science Multimedia, where I have gained exposure to various emerging technologies, including artificial intelligence and machine learning, blockchain, virtual reality, and more. Additionally, my internship at C-Tribe Society has provided invaluable Canadian work experience, allowing me to apply and refine these skills in real-world settings.

By taking on multiple roles in projects such as crafting user interface and user experience designs, prototyping, competitor analysis, customer journey mapping, and animation design, I have demonstrated the practical application of my skills in real-world scenarios. These experiences have allowed me to address complex challenges, develop user-centric solutions, and create interfaces that prioritize functionality and engagement. My ability to adapt to diverse project requirements reflects a well-rounded skillset that aligns with the evolving demands of the tech and design industries.

In addition to hands-on project experience, my academic background in Computing Science Multimedia has equipped me with a competent foundation in emerging technologies, such as artificial intelligence, blockchain, and virtual reality, which complement my design expertise. Furthermore, my Canadian workplace exposure, gained through my internship at C-Tribe Society, has honed my ability to work collaboratively in a multicultural environment and apply my knowledge effectively in local industry contexts.

The detailed analysis in this report highlights not only my readiness to contribute to Canada's tech and design sectors but also my potential to grow and adapt within its dynamic and diverse job landscape. This combination of technical expertise, practical experience, and adaptability positions me as a valuable professional capable of delivering impactful solutions tailored to user needs.

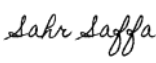
REFERENCES

- [1] Software Designer in Alberta. <https://www.jobbank.gc.ca/marketreport/skills/5479/AB>.
- [2] Government of Alberta. Occupations in demand - alis.
- [3] Job outlooks for Software engineers and designers. <https://www.jobbank.gc.ca/outlookreport/occupation/5479>.

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