

Team Charter – DMED523-Projects 3

Team Name: Volt Crafters

Version 1.0

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Team Members:

Name	Primary Role	Personal Skills
██████	Supervisor	VR/AR, Education
██████	UI Designer	2D Design and Animation
██████	3D Generalist	3D Modelling, Game engines, Rendering, Lighting
██████ i	Developer	Unity, Coding
██████ ██████	Developer	Coding and Unity engine
██████	UI/UX Designer	UI/ UX Design, 2D Graphic design, Video editing, UX research
Robin Pittman	Project Manager, Science Research	Video Production, 3D Modeling, Game Engines, Developing, Electronics Engineering Design

Team Purpose

Our team's purpose is to collaboratively deliver a high-quality VR prototype that meets our customers' needs, fostering continuous improvement, transparency, and open communication within the team and with stakeholders.

We will further iterate and progress our application – through design, development, and delivery of a highly immersive and educational Virtual Reality (VR) experience for automotive students furthering the next stages in the process from previous term. The next step of the VR experience will enable students to gain hands-on experience in safely removing, repairing, and reinstalling a high voltage battery pack (HVBP) in an electric vehicle (EV). We are using the Meta Quest 2 and 3, to create an engaging and realistic learning environment.

Our team aims to:

- *Educate and Train: Provide students with a safe and interactive platform to learn and practice essential skills related to HVBP maintenance and electric vehicle repair.*
- *Immerse and Engage: Develop a VR experience that immerses students in a realistic automotive workshop environment, encouraging active participation and engagement.*
- *Enhance Safety Awareness: Promote safety awareness by incorporating safety equipment, tools, and procedures into the VR experience, ensuring that students understand and follow safety protocols.*
- *Assess and Improve: Implement feedback and assessment mechanisms within the VR experience to identify critical safety steps missed or incorrect procedures. Continuously improve the VR experience based on user feedback.*
- *Deliver Excellence: Strive for excellence in design, development, and delivery to meet the educational goals and expectations of automotive students and educators.*

Team Goals:

- *Deliver valuable increments of the product in short iterations.*
- *Ensure customer satisfaction by continuously seeking and incorporating feedback.*
- *Foster a culture of learning, adaptability, and collaboration.*
- *Maintain a sustainable pace of work to prevent burnout and ensure work-life balance for team members.*

Team Roles

Robin Pittman

Primary: Project Manager

- *Set team schedule.*
- *Run Internal & External Meetings*
- *Prepare and Compile Project & Team Documentation*
- *Compile Meeting Minutes*
- *Facilitate Agile (Sprint Planning, Daily Stand-ups, Sprint Review, and Sprint Retrospective, weekly backlog refinement, sprint planning,).*
- *Remove impediments and ensure the team adheres to Agile principles.*

Secondary: Product Manager

- Define and prioritize the product backlog.
- Provide clear and concise user stories and acceptance criteria.
- Act as the voice of the team to the client.

Tertiary: Technical Design



Primary: UX/UI Designer

- Research UX needs for projects based on client expectations and scope of project.
- Works with designers and developers to create the UI for the client's product.

Secondary: Assistant Project Manager

- Assist the Project Manager as needed.



Primary: UI Designer

- Research and design UI and 2D art based on the project requirements, as well as VI guidelines.
- Work with UX Designer to make sure it suits the style and ensure design consistency.

Secondary: Animator

- Creating animation that suits the UI style.



Primary Role: Senior Unity Developer

- Developing Functionalities and tools based on project requirements and design requirements.

Secondary Role:



Primary Role: 3D Modeler

- *Creating and Editing 3D Models*
- *texturing*
- *preparing for porting to Unity with planned interactive elements*

Secondary Role: Unity Designer

[REDACTED]

Primary Role: Unity Developer

Contact Information

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
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[REDACTED]
[REDACTED]

Robin Pittman

Discord: travestyalpha

email: robin_pittman@thecdm.ca

Working Agreements

Sprint Length: Our sprint length will start at 1 week during the initial phase, transitioning to 2 weeks during the production phase, with consistent start and end dates (Monday to Thursday). This may be adjusted based on client needs.

Daily Stand-up [EOD]: Daily stand-ups will be held at 10 am either in person or via Discord to share progress, discuss impediments, and plan the day.

Definition of Done: We will adhere to a shared "Definition of Done" that includes code review, unit tests, and user acceptance testing before considering a task complete.

- Code is reviewed and approved by Dev Team
- Design is reviewed and approved by Design Team
- Client acceptance tests are performed and passed.
- Documentation is completed in a timely manner (based on Kanban, but flexible)
- Product Manager final approval

Sprint Review: At the end of each Sprint, we will conduct a Sprint Review (Client Meeting) to demo the work completed and gather feedback from stakeholders.

Sprint Retrospective: We will hold a Sprint Retrospective at the end of each Sprint to reflect on our processes and identify areas for improvement.

Conflict Resolution:

1. Internal - attempt to resolve through discussion between members.
2. Move to full group discussion.
3. Communicate with Supervisor (individually, or together)
4. External Mediator

Communication:

- We will use Discord for team communication and ensure that important information is shared transparently. Email and Discord for Supervisor.
- Not required after 1700pm
- Team members will be CC'd for meetings agendas and minutes, or relevant emails to their roles.

Work Hours:

- *For Inception - and Ideation - 0930-1630*
- *Flexible Lunch Breaks (1 hour)*
- *██████ Tuesday & Thursday's 0930-1630*
- *Robin: Robin has class at 4:30 pm Wednesdays so will leave early, will begin at 9am*
- *Approximately 2 x 15minutes breaks in morning and afternoon.*
- *May leave for appointments or noted reasons, but team must be notified.*
- *Notice of absence must be sent to the team via discord as early as possible.*
- *Fridays: No in office work required due to class time (Always optional)*
- *Expected work is minimum 24 hours per week not including Lunch time or personal breaks.*

Other: Weekends and evenings by personal choice, or agreement from the entire group if required (on as needed basis).

File Storage:

- *Working Documents and Links: Notion*
- *Final: OneDrive/Sharepoint*
- *Assets and Code:*
 - *GitHub, using this repository:*
 - [REDACTED]
- *UI: Figma*
- *Ideation: Miro*
- *External Meeting Presentations: Canva*
- *Digital Kanban*
- *VR design: Unity version 2022.3.16 LTS*
- *Outlook will be used for external communication, and with supervisor, though texting may be used for simple matters.*
- *Outlook calendar will be the chief means of scheduling client, or supervisor meetings.*

Respect: We will respect each other's opinions, ideas, and contributions and create a safe environment for open and honest communication.

Official version of Team Charter

Will be stored as PDF in One Drive. Changes will only be made with the agreement of a minimum of 2/3 of team members.

Members Individual Learning Objectives

These are shared here so we can help foster each other's growth in a supportive and constructive manner.

Learning Goals Summary

Graphic Design for Product Development:

- **Specific:** Complete the user interface (UI & Logo & Slides) design for the product, including at least three distinct design options.
- **Measurable:** Deliver three different design options and finalize the chosen design by week 6.
- **Achievable:** Regularly consult with team members and participate in design workshops to ensure the UI is functional and aesthetically pleasing.
- **Relevant:** The design aesthetic is critical for the product's usability and customer satisfaction.
- **Time-bound:** Finalize the UI design before the end of week 6 to align with the product development timeline.

Contribution of Diverse Animations to the Project:

- **Specific:** Develop and integrate a variety of animations into the project, ensuring diversity in style, complexity, and purpose.
- **Measurable:** Create and finalize a minimum of five unique animations, including environmental animations, and user interface animations, each showcasing the styles and techniques. Additionally, gather feedback from team members to ensure the animations meet project requirements and enhance user experience.
 - **Achievable:** Collaborate with UX Designer within the team and conduct research on animation trends and techniques to expand knowledge and skills in diverse animation styles. Allocate dedicated time each week to experiment with various animation tools and software to create diverse animations effectively.
- **Relevant:** Diverse animations add depth and engagement to the project, enriching the user experience and contributing to the overall appeal and functionality of the product.
 - **Time-bound:** Aim to complete the creation and integration of the diverse animations by the end of week 8, allowing for testing and refinement before the project's final delivery. Additionally, schedule regular checkpoints to review progress and adjust strategies as needed to meet the deadline.

Learning Goals Summary

Deepening Knowledge in Automotive Development and Unity VR

- **Specific:** Dive deeper into automotive development and Unity VR, finding the connection between the two fields
- **Measurable:** Complete at least one project that integrates both automotive development and Unity VR, demonstrating improved graphics, optimization, and user experience
- **Achievable:** Utilize online courses, tutorials, and community forums to learn more about both fields, and apply this knowledge in practice projects
- **Relevant:** This goal will leverage my skills in two emerging fields and position me to create innovative solutions.
- **Time-bound:** Achieve this by the end of this semester.

Developing a High-Performance Application

- **Specific:** Utilize skills and knowledge to develop a high-performance application that showcases better graphics, optimization and intuitive user experiences in automotive development and Unity VR
 - **Measurable:** Develop and test a prototype application that meets the performance criteria and gather user feedback
 - **Achievable:** Use available resources and tools, such as Unity assets, automotive simulations tools, and user testing platforms
 - **Relevant:** This goal aligns with my interest in creative impactful applications and positions me for potential industry opportunities
- Time-bound:** Complete the development and testing of the prototype application within six months.

Learning Goals Summary

Primary Goal: Writing Research Papers and Performing Data Analysis

- **Specific:** By the end of the term, complete a research paper using Python tools for data analysis
- **Measurable:** Successfully submit the research paper and get feedback from a professor or mentor
- **Achievable:** Use online tutorials, workshops, and SFU/CDM resources to learn Python tools for data analysis
- **Relevant:** This goal will enhance my data analysis skills and strengthen my research capabilities
- **Time-bound:** Complete and submit the research paper by the last day of the term.

Improving Resume and Securing a Co-op Position

- **Specific:** Improve my resume and secure a co-op position
 - **Measurable:** Update the resume and apply to at least 10 co-op positions, securing interviews through SFU/CDM resources
 - **Achievable:** Attend resume workshops, seek feedback from career advisors, and use SFU/CDM job boards to find co-op opportunities
 - **Relevant:** This goal will help me gain practical experience and enhance my career prospects in digital media.
- Time-bound:** Achieve this by the end of the term.

Learning Goals Summary

Enhance VR interaction design capabilities and methodological learning.

Specific: Gain a comprehensive understanding of VR product design, with a focus on exploring possibilities for higher degrees of freedom in VR interactions.

Measurable: Successfully complete at least 20 in-depth interfaces related to VR interaction design and platform product design within the next six weeks.

Achievable: Allocate a minimum of 2 hours per week to dedicated learning activities, including reading articles, watching instructional videos, and playing VR games. Set aside additional time for research and analysis specifically focused on understanding and formalizing the differences between VR interaction design and platform product design.

Relevant: Enhance skills and knowledge relevant to my career goals in UX/UI design, particularly in the emerging field of VR product design.

Time-bound: Complete the learning activities and gain proficiency in VR interaction design within the next six months, aiming to apply acquired knowledge to practical projects or prototypes by the end of the timeframe.

Robin's Learning Goals Summary

Primary Goal: Enhance leadership through strategic delegation.

- **Specific:** Develop leadership skills by strategically delegating tasks based on team members' skills and career development interests.
- **Measurable:** Track successful task completion and gather qualitative feedback on delegation effectiveness from team members during retrospectives.
- **Achievable:** Use the Kanban system to visualize workload distribution and individual contributions, ensuring tasks align with team members' strengths and growth areas.
- **Relevant:** Effective delegation is crucial for managing a diverse team efficiently and fostering a supportive work environment.
- **Time-bound:** Review and adjust delegation strategies during each sprint retrospective, aiming for continuous improvement throughout the project timeline.

Secondary Goal: Improving Team Communication Dynamics

- **Specific:** Foster better communication within the team by implementing specific tools and techniques to enhance clarity and reduce misunderstandings.
- **Measurable:** Qualitatively assess the improvement in team interactions and communication through feedback during sprint retrospectives.
- **Achievable:** Introduce a structured format for updates and queries in stand-ups and other communications, such as a checklist of topics to cover or a question prompt to encourage thorough updates.
- **Relevant:** Enhanced communication is key to preventing issues and ensuring everyone is aligned, especially important in a hybrid work environment.

- **Time-bound:** Assess communication flow and make necessary adjustments on a bi-weekly basis, aiming for a well-established routine by mid-project.

Secondary Goal: Optimizing Stand-up Meetings for Actionable Outcomes

- **Specific:** Refine the daily stand-up meetings to focus on actionable insights and immediate next steps, reducing general status updates.
- **Measurable:** Gather team feedback on the effectiveness of stand-ups in terms of clarity and actionability during sprint retrospectives.
- **Achievable:** Introduce a new stand-up format where each member briefly states their main task for the day, current blockers, and specific assistance they need from the team.
- **Relevant:** Streamlined and focused stand-ups can enhance productivity and ensure quick resolution of blockers, which is crucial for maintaining momentum in agile environments.
- **Time-bound:** Monitor and refine the new meeting structure weekly, aiming for a stable and effective routine by the end of the first month.

Learning Goals Summary

Primary Goal: Rapid Learning in the VR Project:

Specific: Increase and enhance MR development skills, get familiarized with the XR components in the current project file, which involves numerous plugins, toolkits, and SDKs. Find an efficient way to manage the framework and optimize the project file.

Measurable: Quickly navigate the current project file and achieve improvements using existing scripts.

Achievable: Accept and refine features based on the analysis from user tests.

Relevant: This knowledge is essential for the second-phase development of this semester.

Time-bound: Aim to deliver designed functions by week 8.

Implementing Multi-player Feature

Specific: Utilize Photon plugins to successfully implement the multiplayer feature in the current project.

Measurable: Enable players to join a room, synchronize player avatars and gameplay actions.

Achievable: Test the multiplayer framework in the existing project, identify any issues (e.g., connection to the master server, errors when generating or joining rooms), and resolve them systematically.

Relevant: This knowledge is crucial for achieving the stretch goal and advancing research development this semester.

Time-bound: Aim to deliver designed functions by week 8.

Secondary Goal: Improving Improvisation and Communication Skills:

Specific: Enhance English proficiency and communication skills among team members. Maintain good team dynamics and actively seek solutions to avoid conflicts caused by communication issues. Additionally, adopt better communication methodologies, such as using improvisation skills like "yes, and" and the sandwich method.


Measurable: Maintain an efficient and professional communication manner for work and foster an easy team dynamic within the team.

Achievable: When encountering different opinions within the team, focus on solving problems rather than exacerbating them.

Relevant: These skills are crucial for creating a respectful and comfortable working environment and fostering team bonding.

Time-bound: Aim to deliver improvements throughout the entire semester.

Signatures:

 By signing below, each team member acknowledges their commitment to this charter and its principles.

Team Member Signatures:

██████

Print: _____

Signature: _____

Date: _____

██████

Print: _____

Signature: _____

Date: _____

██████

Print: _____

Signature: _____

Date: _____

██████

Team Charter: VoltCrafters

Print: _____

Signature: _____

Date: _____

Robin:

Print: _____

Signature: _____

Date: _____



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