Project Charter
Pre-Trip Inspection
Client: Humulo VR

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Vancouver Film School
2023 VAR05 Cohort
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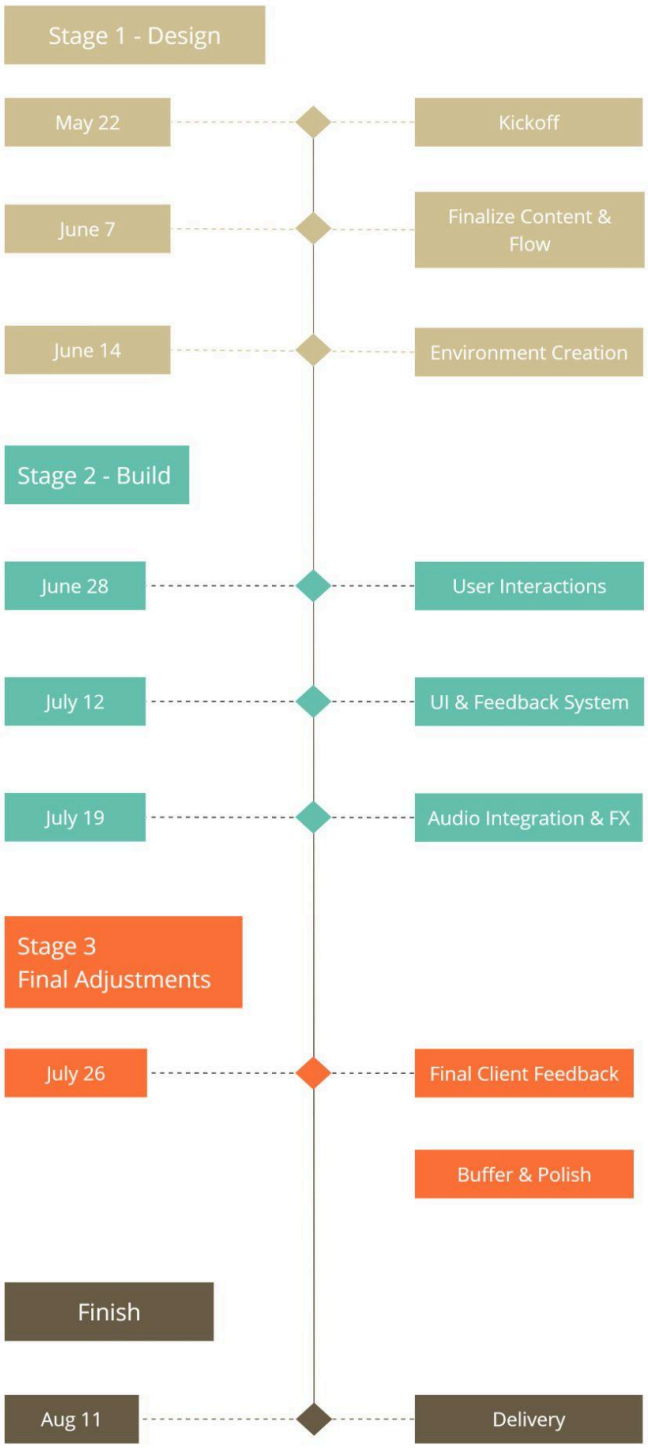
Scope Statement

Project Justification:	• Provide adequate training experience for commercial drivers. • Easily scalable to a large number of employees and different types of vehicles. • Building muscle memory for daily on-site inspections.
Statement of Work	A Virtual Reality training experience for pre-trip vehicles inspection: • Identify major hazards • Describe types of hazards • Protect him/herself from these hazards • Communicate employer requirements to protect workers from these hazards
Project Deliverables (scope):	
Deliverable A **The MVP**	Training: Step-by-step training experience to Identify main parts of the vehicle required for pre-trip inspection (i.e. lights, seals, brakes, etc.). **Milestones:** **Project Planning and Research** • Define learning outcomes and curriculum for Pre-Trip Inspection • Define user flow • Identify technical requirements **Content Creation and Storyboarding** • Write script and narration • Create or gather necessary assets: 3D models, animations, sound assets • Hazard descriptions, self-protection measures, and employer requirements. **VR Development and Programming** • Set up the VR development environment and tools • Block out level and environment • Implement basic user interaction, navigation, and assessment features • Setup simple UI for teaching explanations • Guide mode (objectives and arrows, explanations on what to do) **VR Interactions: Visual, Sound & Haptic** • Update block out level with proper art assets • Implement auditory and haptic feedback • Add environmental sounds • Basic animation and VFX • Integrate audio for narration

Deliverable B	Quiz: Individual inspection challenge to test user knowledge.
Deliverable C	Challenge: User is placed in a scenario where they must apply their learned knowledge. Requires error handling to provide feedback when a user incorrectly executes a task.
Known Exclusions	PCVR, Only Pico for target device. Bespoke character animations and vehicle models. Bespoke narration, we'll probably use AI generated, at least to prototype. Access to Microsoft Teams network for logging in users to the training module. Multiple vehicles.
Measures of Performance	Specific: Develop a VR training experience on pre-trip vehicle inspections that educates users about major hazards, types of hazards, self-protection measures. Measurable: Create interactive modules that cover at least five major hazards commonly encountered during pre-trip vehicle inspections. Each module should provide detailed descriptions of the hazards and associated risks. Incorporate quizzes or assessments to measure users' knowledge and understanding of the hazards. Achievable: Collaborate with a VR development team and teaching staff to ensure the technical feasibility of developing the VR training experience within the given resources. Relevant: Ensure that the VR training experience aligns with the specific needs of the target audience (e.g., truck drivers, vehicle inspectors) and addresses the occupational safety and health regulations related to pre-trip vehicle inspections. Incorporate a real-life scenario to make the training experience practical and applicable to the users' work environment. Time-bound: Complete the development of the VR training experience within three months. Conduct user testing and gather feedback to make necessary improvements.
Benefits to Client	• A larger library of experiences to offer to their clients. • Functional proof-of-concept for pre-trip inspection training experience. • Offer new perspectives and design solutions.
Cost Objectives	• 3D Assets, Sounds, and VR Framework. • 4 part-time developers (~5 hours/week) for 3 months.

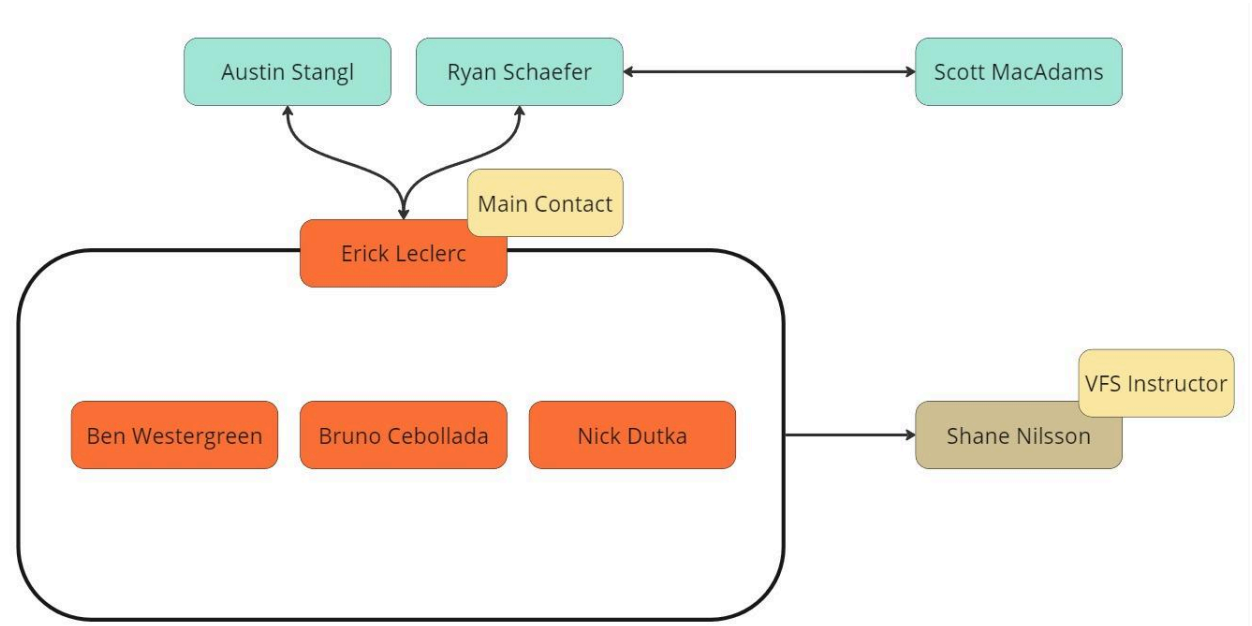
Schedule Objectives	Start: May 22nd 2023 End: August 9th 2023 • Weekly client meetings on Wednesdays at 9:00 PDT.
Quality Measures	• A fully functional inspection experience • Agreed deliverables on schedule • Thoughtful integration of visual, sound and haptics
Other Notes about the project	Time constraints from other classes during the school term.

Schedule


Stage 1 - Design
May 22
Kickoff
June 7
Finalize Content & Flow
June 14
Environment Creation
Stage 2 - Build
June 28
User Interactions
July 12
UI & Feedback System
July 19
Audio Integration & FX
Stage 3
Final Adjustments
July 26
Final Client Feedback
Buffer & Polish
Finish
Aug 11
Delivery

Communication Plan

I. Communication Flow



II. Team Communication Outlets

Trello, Slack, Zoom

III. Client Communication Outlets

Google Chat, Google Drive, Gmail

IV. Meetings

Weekly Class Meeting	Tuesdays 1:00 - 4:00 pm PDT
Weekly Client Meeting	Wednesdays 9:00 - 10:00 am PDT

Risk Plan

	Risk Without Response				Risk With Response			
Risk #	**Description**	**Likelihood**	**Impact**	**Initial Risk Score**	**Risk Response Plan**	**Owner**	**Likelihood**	**Impact**
Unfinished Project	Did not achieve all objectives outlined in project scope	4	3	**12**	Provide documentation updates for others to easily pick-up. Weekly cadence of comms.	Erick L.	3	3
Design Inaccuracy	A fully modular, realistic truck with all necessary components	2	4	**8**	Agree on a set poly count and adjust environment for CPU necessity	Nick D.	1	4
Time Management	Other classes, personal lives, self-care	5	5	**25**	Co-ordinate with instructors and client to allocate enough time	Erick L.	4	4
Cost	Time and budget allocated to the assignment	1	2	**2**	Use available assets or find more budget-friendly options	Humulo VR	1	1
Changes to User flow	Experience requires changing and/or adding elements	4	4	**16**	Validate flow early to avoid changes later on. Communicate clearly intensions and hypotheses.	Bruno C.	2	3
Disruption to Communication Plan	Last minute changes, re-works, late user testing feedback, etc.	2	3	**6**	Check-in ahead of time, include readily available surveys, and status updates on Trello	Erick L.	2	2
Teaching Ineffective	Users who try the experience find it difficult to learn	2	4	**8**	Test and prototype as early as possible to verify design hypotheses	Ben W.	1	3
Poor Mobile Performance	Product can not achieve proper frame rate	3	3	**9**	Test builds on devices early & often. Freq discuss technical concepts toegther.	Ben W.	1	3

Client Sign Off Agreement

HUMULO MANAGEMENT CERTIFICATION:

We have assessed the specifications and deliverables for the “Pre-trip Inspection – Humulo VR” By signing this agreement, we fully accept and authorize initiation of work to proceed.

_____	_____
NAME	DATE
_____	_____
NAME	DATE
_____	_____
NAME	DATE

VFS TEAM CERTIFICATION:

We have assessed the specifications and deliverables for the “Pre-trip Inspection – Humulo VR” By signing this agreement, we fully accept and authorize initiation of work to proceed.

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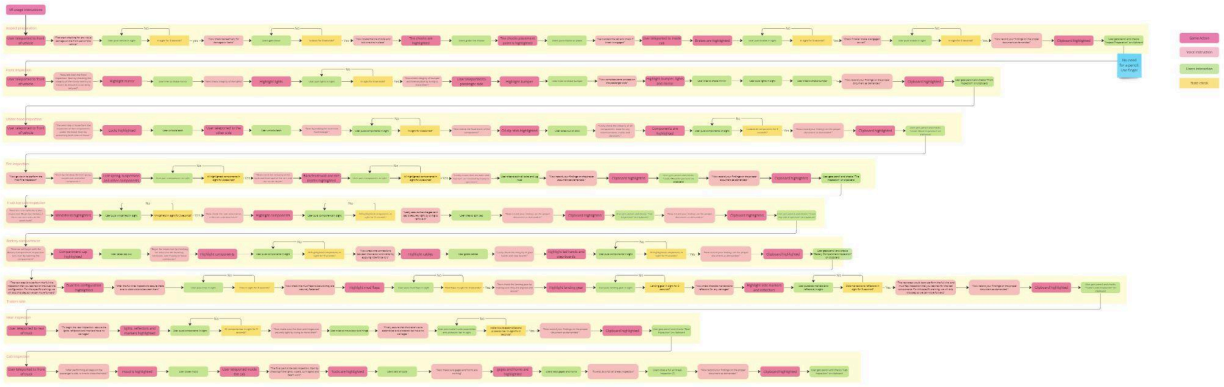
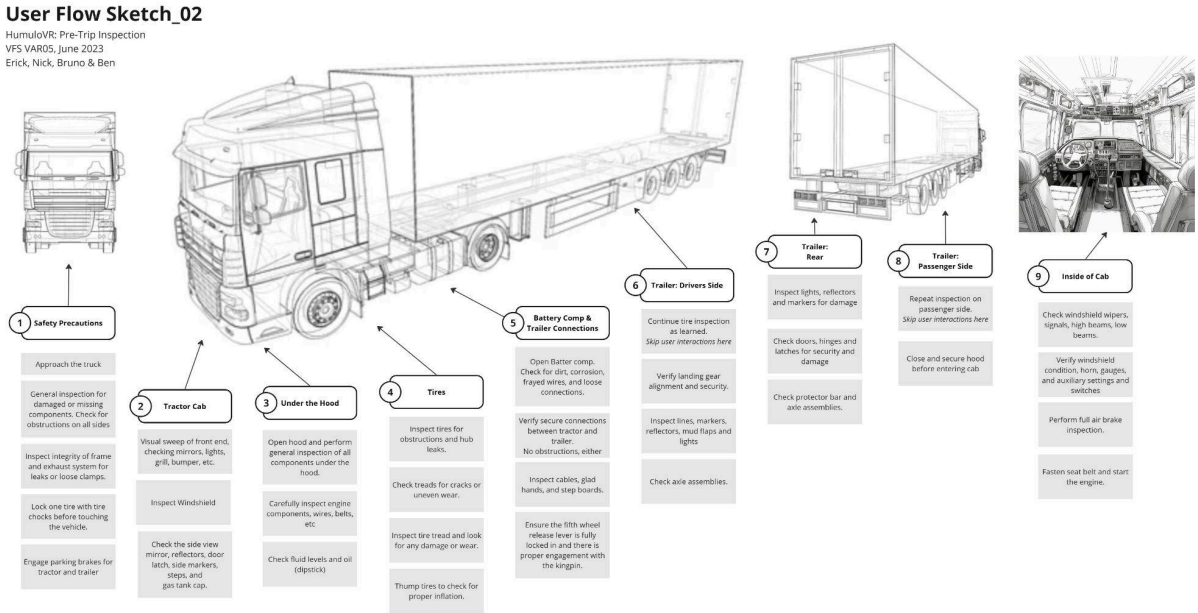
Appendices

See research folder for full size images

User Flow: Interaction & Dialogue Map



User Journey: POV Visual Flow



User Personas

Persona: Novice Trucker

Demographics

Name: John Davis
Age: 28
Gender: Male
Location: Denver, Colorado
Experience Level: Less than 1 year
VR Experience: None

"Man, this pre-trip inspection stuff is overwhelming. So many things to check, and I'm afraid I might miss something important."

Behaviors & Habits

Hobbies
Country, Classic Rock & Blues Music
Hiking and Outdoor Exploration
Fishing
Craft Brewing and Beer Tasting
Off-Roading and 4x4

Goals
- Become familiar with the process
- Prove his mastery to overcome imposter syndrome
- Validate his skills learned

Likes:
- Practical Learning
- He enjoys tracking his progress
- Exchange knowledge with experienced truckers or fellow novices

Dislikes:
- Overwhelming Amount of Information
- Ambiguity and Uncertainty
- Repetition Without Variety
- Lengthy and Tedious Training

Pain Points & Frustrations

Lack of Experience: John has limited experience performing pre-trip inspections. He is unsure about the specific steps and components to check. He feels overwhelmed by the amount of information and details involved.

Need for Hands-on Practice: John recognizes the importance of practical experience in performing pre-trip inspections. He remember information best when he can do it himself, using his hands.

Limited Access to Physical Trucks: John may face challenges in accessing physical trucks for training purposes.

Gains & Opportunities

- **Step-by-Step Guidance:** Provide a simplified and easy-to-follow checklist for pre-trip inspections
- **Simulated Practice Scenarios**: Develop interactive scenarios: these could be identifying common issues or time-constrained inspections
- **In-Context Training Environments:** Create diverse virtual environments, such as parking lots, depots, or highways.
- **Detailed Inspection Points:** Enable John to closely examine specific components of the truck. Photographic References. Examples of equipment
- **Troubleshooting Scenarios:** Incorporate simulated troubleshooting scenarios to resolve common issues that may arise during pre-trip inspections
- **Progress Feedback:** Visually display users progress through training.

Persona: Experienced Trucker

Demographics

Name: William Thompson
Age: 62
Gender: Male
Location: Pittsburgh, Pennsylvania
Experience Level: 34 years
VR Experience: None

"This is a waste of my time. I already know how to do this, and VR won't make it better."

Behaviors & Habits

Hobbies
The Pittsburg Steelers
The Pittsburg Pirates
Truck Enthusiast
Woodworker
Classic Science Fiction Movies
Darts

Goals
- Finding shortcuts to work and destinations
- Learn what has changed in the industry
- Practice new processes with his hands

Likes:
- In Person, face to face training
- Freedom of the open road
- Creative solutions to overcome challenges on the road

Dislikes:
- New Technology
- Paperwork and administrative tasks
- Novice drivers

Pain Points & Frustrations

Waste of time: William already did pre-trip inspections several times along his life. For this reason, he sees the training just as a waste of his time.

Skeptic about VR: Doesn't understands how doing the training using a technology he doesn't know should be better than the traditional way.

Lack of engagement : William feels he already knows everything there is to know about the training, so he doesn't pay much attention to it.

Gains & Opportunities

- **Introductory tutorials** and guidance on using VR technology.
- **User-friendly interface and intuitive controls** within the VR environment to enhance ease of use and minimize learning curve.
- **Streamline experience** for users with previous knowledge. Allow quick completion of steps.
- **Highlight changes** that are new to the Pre-Trip inspection regulations
- **Incorporate interactive elements**, such as quizzes and simulations exercises, to make the training experience more engaging, immersive, and hands-on.

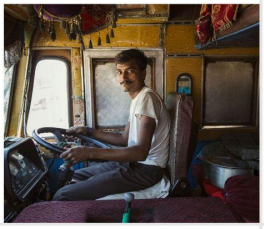
User Personas Cont.

Persona: Multilingual (ESL) Trucker:

Demographics

Name: Javi Patel
Age: 30
Gender: Male
Location: Baltimore, Maryland
Experience Level: 5 years
VR Experience: None

"I'm very excited to try something new and tell all my friends and family about it!"



Behaviors & Habits

Hobbies
Personalizing his truck
Spending time with the family
Observing religious rituals (meditation, yoga)
Reading procedural crime novels
Classic Hindi Music & Pop Music

Goals
- Become the best employee in the lineup
- Showcase his learned skills to employer
- Gain certification to prove his competence in the field

Likes:
- Hands-on learning
- Repetition to aid comprehension
- Monotony is peaceful
- Teamwork, passengers

Dislikes:
- Speeding through learning
- Paperwork
- Being alone

Pain Points & Frustrations

Difficulty Communicating: Javi understands the signs of the road, and the components of his truck, but does not know how to communicate them properly with the language barrier.

Difference in Driving Conventions: Most of Javi's experience comes from driving back in India. He is less familiar with trucks that are used in the west. The rules of the road and its conventions are different.

Testing Fear: When being tested, Javi struggles with oral and text-based evaluations. He much prefers simplified test such as symbol recognition.

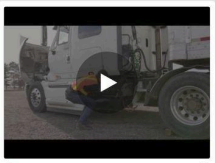
Cultural Considerations: Javi sometimes feels left out of the culture at his trucking company. Inside jokes and cultural references he doesn't understand are confusing.

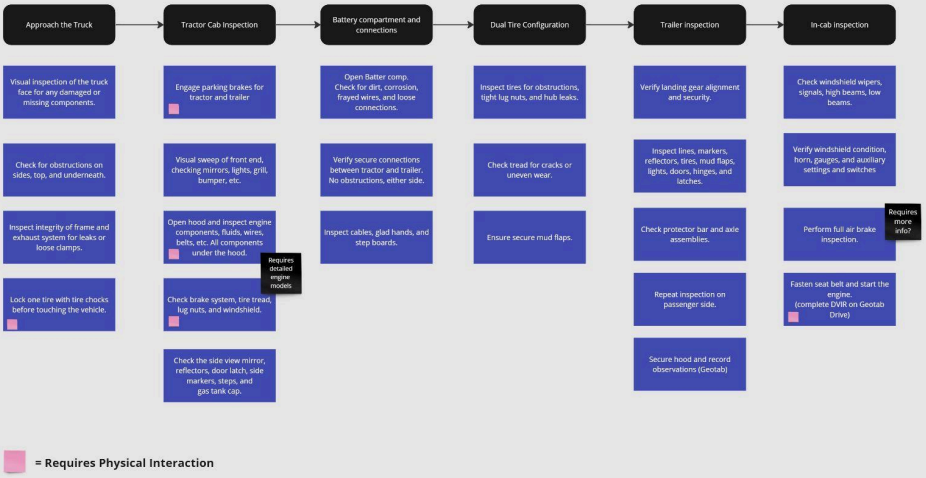
Gains & Opportunities

- **Multilingual Support:** Narrator has a familiar accent that puts Javi at ease while learning. Localization support for customers in foreign countries.
- **Customization:** Capability to customize the training truck in the same manner as the real life version.
- **Visual Representation** Enhance the use of visual cues, animations, and diagrams to convey information effectively, reducing reliance on complex text-based instructions.
- **Simplified Language and Terminology:** Use simplified language and avoid jargon or technical terms whenever possible. Provide clear explanations and definitions for essential terminology to ensure comprehension.

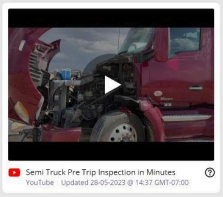
Comparative Analysis

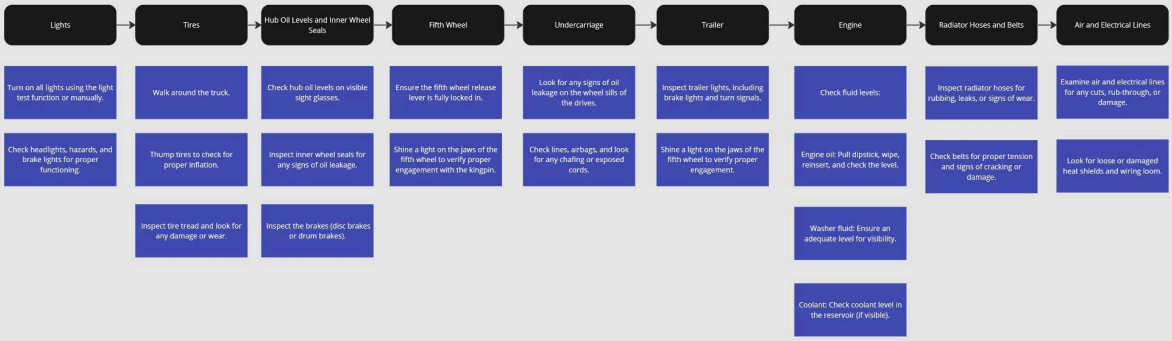
Comparative Analysis:
DVIR Inspection (Walkaround) | Geotab Drive





Comparative Analysis:
Semi Truck Pre Trip Inspection in Minutes by Double D Distribution





Data Architecture