ENSE 805 Project report-out & lessons learned

Disclaimer: This template should be used to guide your discussion. The course facilitator asks that you be as open, honest, and professional in your responses as possible. Please know it is OK to agree/disagree with any concept, process, or idea discussed in this course. The knowledge gained from your open, honest, educated, and professional responses may be discussed at a future Engineering Faculty and/or "Canadian Engineering Education Association (CEEA)" event.

Project name: Safe Paws – An Interactive Pet Safety Game for Children
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Business need/opportunity
- Children frequently engage with family pets, but they do not comprehend proper methods of approaching these animals. Children's lack of understanding about pet safety practices has generated bite injuries and other similar issues.
- The Safe Paws project implemented gamified decision-based learning to create an educational tool which focuses on children from grades 1 to 5 for addressing pet safety issues. Through interactive scenarios the game fosters safety exposure as well as responsible pet behavior while promoting empathy in users.

Reflections on project planning (3-5 pages)
- **United Nations SDGs Selected & Justification:** The Safe Paws initiative strategically aligns with two core United Nations Sustainable Development Goals (SDGs):
  1. SDG 4 – Quality Education: The project advances inclusive and equitable quality education by integrating essential pet safety awareness into interactive, curriculum-aligned gameplay. Targeting students in Grades 1 to 5, the platform employs experiential learning methodologies—leveraging real-world scenarios and decision-based mechanics to reinforce cognitive retention and social-emotional development. This pedagogical approach transforms learners from passive recipients into active agents of knowledge, fostering critical thinking, empathy, and behavioral competency from an early age.

  2. SDG 15 – Life on Land: Safe Paws supports the sustainable stewardship of terrestrial ecosystems through education that cultivates empathy-driven animal interactions. By teaching children to recognize signs of distress, adopt safe engagement protocols, and respond ethically to animal behavior, the game instills humane values and encourages proactive animal welfare practices. This contributes not only to pet safety but to the broader goal of promoting harmonious coexistence between humans and animals.

  ➢ These SDGs were intentionally selected to reflect the dual mandate of the Safe Paws program: to enhance educational outreach in animal safety and to underpin community-driven efforts in responsible pet ownership. The program's collaboration with the Regina Humane Society amplifies both its legitimacy and its impact, anchoring the project in evidence-based advocacy and real-world applicability.

- **Community Research and Requirements Gathering:** A pivotal element of the project's planning phase was the systematic identification of community-specific needs through a structured stakeholder engagement process. The development team collaborated closely with Rebecca Carson, Manager of Education and Outreach at the Regina Humane Society, to ensure alignment with local expectations and pedagogical priorities. A series of consultative sessions yielded critical insights into behavioral benchmarks in early learners, instructional gaps in pet safety education, and the imperative for culturally responsive content delivery.

➤ Key findings from the environmental scan highlighted a pronounced deficiency in interactive, child-centric educational tools for pet safety. Existing materials were largely static, text-heavy, and ineffective in sustaining the attention of young learners. Moreover, persistent digital infrastructure limitations, particularly in rural and remote regions of Saskatchewan, underscored the necessity for offline functionality and low-bandwidth compatibility.

➤ The synthesized requirements were segmented into three strategic domains:
  1. **Educational Validity**: Content must exhibit behavioral authenticity, mirroring real-life pet interactions, and align with evidence-based safety protocols to ensure pedagogical credibility.
  2. **Engagement Design:** Visual and auditory assets needed to strike a balance between minimalist design and sensory stimulation, fostering sustained user engagement among early childhood learners.
  3. **Accessibility:** The solution architecture required offline operability and optimization for low-spec devices, to maximize reach and usability across digitally underserved populations.

- **Evaluation of Planning Processes and Documentation**: The planning methodologies introduced in ENSE 805 were instrumental in optimizing the project's early-stage development lifecycle. Leveraging strategic tools such as the Business Model Canvas, Customer Discovery Frameworks, and Minimum Viable Product (MVP) Scoping Templates, the team was able to effectively crystallize the project vision, evaluate operational feasibility, and ensure continuous alignment with community-centric objectives.

➤ Although the documentation workflows initially presented as resource-intensive, they ultimately functioned as a foundational infrastructure for cross-functional coordination and stakeholder engagement. For example, the utilization of the Stakeholder Mapping Matrix enabled data-driven prioritization of feature development based on measurable community impact metrics. Likewise, the development of a clearly delineated MVP scope mitigated the risk of scope creep, ensuring that deliverables remained laser-focused and outcome-oriented.

➤ Rather than impeding momentum, these structured planning artifacts served to enhance organizational clarity, streamline task prioritization, and facilitate agile responsiveness in the face of emergent constraints. The planning framework embedded a proactive, solution-driven mindset within the team—proving to be a critical success factor in maintaining project velocity and stakeholder confidence.

- **North Star and Carryover Customers:** The project team conducted a comprehensive stakeholder segmentation exercise, identifying primary and secondary user cohorts to inform both short-term deliverables and long-term scalability objectives.

- **North Star Customer:** The Regina Humane Society was designated as the North Star Customer, serving as the strategic anchor due to its mission alignment around promoting responsible pet ownership. Their subject-matter expertise directly influenced the core gameplay narrative, educational content architecture, and iterative feedback mechanisms, ensuring the product maintained both ethical integrity and instructional validity.

- **Carryover Customer Segments:**

  1. Educational Institutions (Local Schools): Representing integration potential as a curriculum-aligned instructional module within classroom settings.

  2. Parents/Guardians: Positioned as secondary influencers and supervisors, capable of reinforcing in-game learning outcomes within home environments.

  3. Community Centers and Non-Profit Organizations: Viewed as distribution partners for informal learning settings such as outreach programs, workshops, and summer camps.

- These segments were strategically selected based on their proximity to the child's learning ecosystem and their alignment with the project's Golden Circle Framework—Simon Sinek's "Why, How, What" model:

- Why: To safeguard and educate both children and animals through empathy-centric experiential learning.

- How: By delivering immersive, scenario-based gameplay grounded in real-world behavioral interactions.

- What: A 2D decision-driven digital learning tool, featuring dynamic audio-visual feedback loops to reinforce safe and ethical pet engagement. This user-centered design strategy ensured that development decisions remained mission-driven, impact-oriented, and stakeholder-aligned throughout the project lifecycle.

- **Assumptions and Constraint:** During the planning and preliminary development stages of the Safe Paws initiative, several baseline assumptions were embedded into the project's foundational strategy, directly influencing design choices and directional focus.

- Key assumptions included the belief that children in Grades 1 to 5 possess the cognitive readiness and behavioral receptivity necessary to engage with interactive, decision-based digital learning experiences, and that this engagement would translate into real-world behavioral change. It was further presumed that community partnerships—notably with the Regina Humane Society—would be readily accessible and serve as content validators, enriching the game with pedagogically sound and contextually relevant material. Additionally, the selection of the Godot game engine was predicated on the assumption that it would provide sufficient functionality, flexibility, and scalability to support the project's interactive storytelling goals within established time and budgetary parameters.

- However, as the project transitioned into the development phase, several operational constraints and unforeseen variables emerged:

1. Time Constraints: The development timeline proved to be a critical bottleneck, necessitating a pivot from the initially envisioned multi-chapter narrative structure to a single, fully developed prototype chapter.
2. Budgetary Limitations: Financial constraints impacted content production capabilities, resulting in the interim adoption of AI-generated visual and audio assets—some of which included watermarks and lacked full customization, thereby compromising aesthetic cohesion.
3. Technical Ramp-Up: The team encountered a steep learning curve associated with Godot and GDScript, which introduced early-stage inefficiencies and impacted development velocity.
4. User Testing Restrictions: Due to ethical considerations and timeline limitations, the team was unable to conduct primary user testing with the intended demographic (children), limiting opportunities for iterative feedback and validation during this phase.

- These initial assumptions and emergent constraints collectively informed the minimum viable product (MVP) strategy, guiding the feature prioritization matrix and allowing the team to deliver a functional, mission-aligned prototype. The project outcomes set the stage for future scalability, with clearly defined areas for iterative enhancement, asset refinement, and expanded stakeholder engagement in subsequent development cycles.

- **Technology Stack and MVP Evolution:** The game was built using the Godot Engine, an open-source platform optimized for 2D game development. It was chosen based on its support for:
1. Lightweight performance on low-end devices
2. Offline deployment, critical for rural accessibility
3. Visual scripting and modular scene design
4. Open-source licensing, supporting long-term scalability

- **The development journey included:**
1. Phase 1: Creating a Mario-style game for training purposes
2. Phase 2: Designing Chapter 1 with refined UI, decision prompts, and reward logic
3. Phase 3: Implementing audio feedback, coin logic, voiceover narration, and AI-generated introductory scenes

- **The MVP currently includes**:
1. A full educational chapter on how to interact with a leashed dog
2. Real-time feedback for correct and incorrect actions
3. A coin reward system that aligns with Humane Society feedback
4. Chapter intro with narrative context and voiceover summary on completion

- **Screenshots and Visual Evidence:**

Figure1: Intro (Character enters the game)

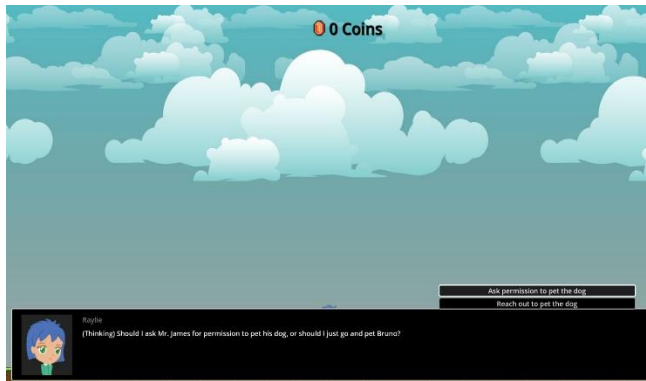*Figure2: Character encounter the dog with the owner*
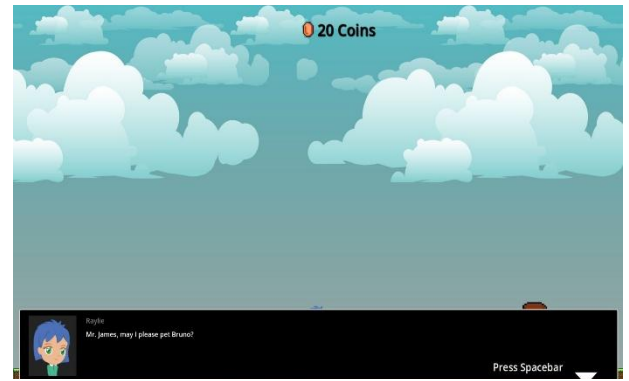
Figure 3: Question asked (Decision Point)

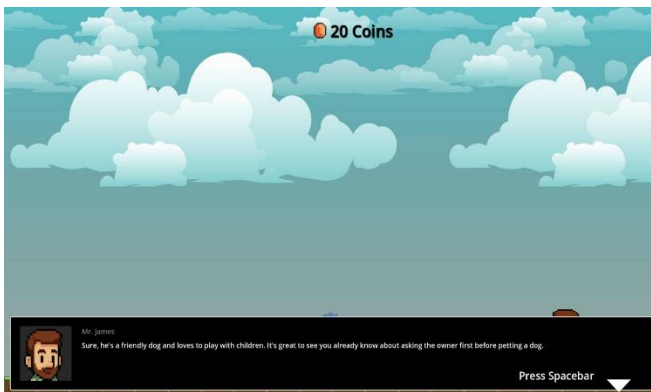*Figure 4: Correct decision finds the coins*
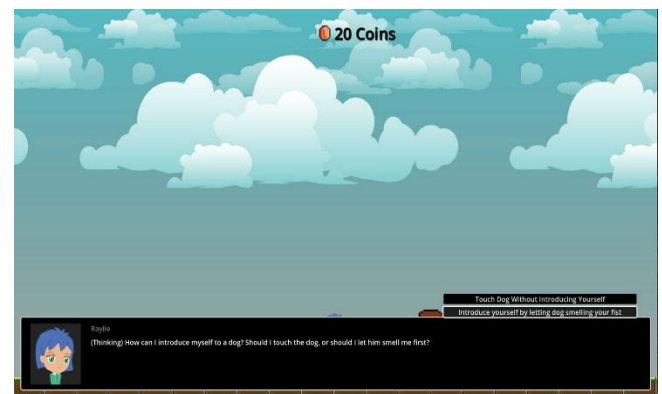

Figure 5: Response from the owner (Mr. James to child)

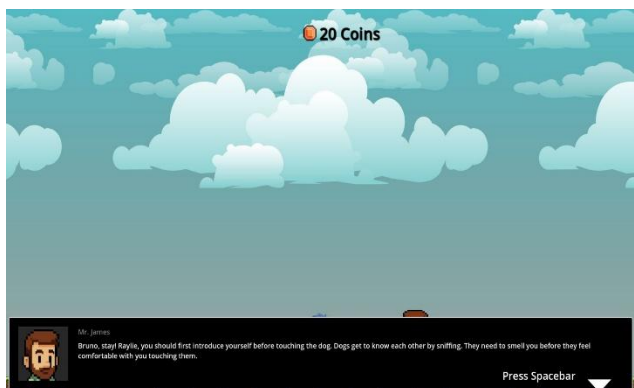*Figure 6:2ⁿᵈ Message(Incorrect option selected)*

Figure 7: Incorrect dicission no coins earned (Advice or feedback from Mr James(Owner)

Reflections on project results (4-5 pages)

- **What We Created:** In a span of the semester, we were able to achieve the range of this Challenge by designing and deploying Chapter One of Safe Paws, a prototype educational gaming experience that is targeted to serve grades 1 to 5 and aims to promote safe and responsible pet interaction behaviors. The game is developed with the use of Godot Engine, incorporating a set of interactive learning mechanics and multimedia tools to maximize user engagement, knowledge retention and behavioral reinforcement.

➢ It is a follow day structure that involves a real-world simulation scenario — there is a leashed dog and what the game is implying is that this dog is able to decide who should get what, so it is up to the player to find the correct set of decision choices in order to satisfy the dog. With each decision, players are prompted to make contextually appropriate choices concerning asking for permission, initiating safe contact, and not engaging in sudden movements and are fed immediate feedback on whether they were right. These decision trees are meant to mimic real life pet encounters, so that children will have a simulated pet situation that will enable them to act properly before such encounters occur in real life.

➢ The major thing that makes this prototype so effective is that it is very realistic on behavioral level and its very age specific way of engagement. Safe Paws uses narrative storytelling, character dialogue, and cause effect interaction to explain rather than teach and memorize lesson because learning does not entail way too much time memorizing and rote learning. So using this scaffolding approach, learners can build competence one step at a time with the reward of an immediate reinforcement and positive feedback using coins.

➢ The design also strongly relies on constructivist learning theory and experiential learning models, so that the children may learn in doing, rather than just watching. Real time audio feedback, visual cues, and incremental rewards are integrated to stimulate both cognitive and emotional learning domain. These systems together promote empathy, safety awareness and the critical skill of knowing what to do without having to be told—all skills that are invaluable beyond the game itself.

➢ Key MVP Feature Set
1. Branching Decision-Making System: Emulates real-life pet interaction scenarios to support experiential learning outcomes.
2. Audio-Visual Feedback Mechanism: Immediate, sensory-rich feedback loop designed to enhance concept internalization and user comprehension.
3. Gamified Reward Architecture: A coin-based incentive system, refined in collaboration with the Regina Humane Society, reinforces positive behavioral choices and encourages repeat engagement.
4. AI-Generated Intro Cutscene: Establishes narrative context and sets the tone for immersive learning at the outset of gameplay.
5. End-of-Chapter Voiceover Summary: Recaps core safety principles in a child-friendly narrative format, facilitating learning consolidation.
6. Collectively, these components form a mission-aligned Minimum Viable Product (MVP) that is engaging, pedagogically sound, and culturally contextualized to resonate with the target demographic. The prototype serves as a proof of concept for broader deployment, integration into educational environments, and future scalability.

- **Reviewing Our Initial Planning & Initialization Video:** Upon reviewing our initial planning and project initialization vlog, it is evident that as the team, we maintained strong alignment with the original project vision and strategic objectives. From inception, the initiative was conceptualized as an interactive, community-centered educational platform aimed at enhancing pet safety awareness among children in Grades 1 to 5. Core elements articulated during the early project phase—including the adoption of the Godot Engine, the integration of a gamified coin-based reward system, and the delivery of content rooted in evidence-based pet interaction guidelines—were effectively translated into our Minimum Viable Product (MVP).

➢ Despite a necessary downscaling of scope due to time and resource constraints, the team successfully executed a feature-complete, high-fidelity prototype chapter that encapsulates the core value proposition of the Safe Paws initiative. While the initial roadmap envisioned the development of five content chapters, the team exercised strategic prioritization and agile adaptation, delivering a polished, fully functional first chapter that embodies the project's pedagogical intent, narrative structure, and user engagement framework. In this way, the final deliverable remains mission-aligned and executional sound, setting a robust foundation for future expansion phases.

- **Software Design Activities and Class Connections:** The software design encompassed structured planning models combined with creative solutions for problem-solving. The initial stage of our development included simple tests that demonstrated user interface sequences alongside dummy asset validation of system logic. We constructed segmented scenes inside Godot which simplified the management of decisions as well as the tracking of coins and transitions between scenes. A modification of the reward system took place after the Regina Humane Society provided their input. The design for wrong answers originally included partial coins until we changed it to 10 coins for correct answers and zero coins for wrong answers to emphasize right decision making throughout the game.

- A voiceover system and chapter completion notification functioning through audio helps the game fulfill user-centered principles alongside cognitive reinforcement as described in class. The MVP design adheres to knowledge gained from lectures about MVP scoping combined with iterative prototyping as well as stakeholder commitment.

- **How We Felt About the Project:** Work with Godot Eng ne proved to be a rewarding experience. The technology was unfamiliar to us yet it enabled quick prototyping alongside neat two-dimensional visual design. The process of making an educational game with practical benefits for the world produced a fulfilling experience. The partnership with the Regina Humane Society gave our project a clearer sense of meaning through its community purpose. The process of observing our storyboards and prototypes develop into playable format ensured a highly satisfying experience for us.

- What We Didn't Like: We struggled to maintain superior visual and animation quality because we did not have the resources and insufficient time to produce tailored assets. AI-generated voiceovers together with videos proved useful for demos though they carried visible watermarks and remained unprofessional. The lack of real children testing the game reduced our ability to fully understand its effects on junior children**.**

- **What Went Well**:
  1. Stakeholder Engagement Excellence: Ongoing communication with the Regina Humane Society was both strategic and collaborative, yielding high-value insights that enhanced content authenticity and educational alignment.

2. Feature Functionality Alignment: Core systems—including coin-based gamification logic, voiceover integration, and UI feedback mechanisms—performed according to technical specifications and user experience expectations.

3. Team Synergy and Workflow Efficiency: The team demonstrated strong internal coordination, leveraging task delegation frameworks and agile workflows to remain on track and maintain consistent momentum throughout the development lifecycle.

- **What Didn't Go Well**
1. Scope Compression Due to Time Constraints: As this was the team's first foray into game development, a significant portion of the initial timeline—approximately two weeks—was dedicated to onboarding, tool familiarization, and understanding industry-standard development workflows. Additionally, voice talent selection and refinement required multiple iterations to align with the target age group and tone, further contributing to timeline compression. These factors, combined with academic timeframes, necessitated a strategic reduction in scope, resulting in the delivery of a single, fully-developed chapter rather than the originally envisioned multi-chapter experience.

2. Technical Onboarding Overhead: The learning curve associated with the Godot engine and GDScript introduced early-stage technical complexity. While ultimately overcome, it did delay the achievement of initial development milestones and impacted overall velocity.

3. Visual and Animation Shortfalls: Due to resource and timeline limitations, the final visual output—including animations, transitions, and polish—did not fully achieve the desired level of aesthetic fidelity, affecting immersive potential and overall production value.

- **Replicable Best Practices:** Several key approaches from the Safe Paws project proved to be high-impact and are recommended for replication in future development cycles
1. Leverage Lightweight, Open-Source Platforms: Selecting the Godot Engine was one of the best decisions that was made during the development of Safe Paws. Also being an open-source lightweight platform, Godot had some benefits: it could be used to quickly prototype, test mechanics without the need of setting up much, all changes had a low overhead. Compared to heavier engines, Godot's simplicity paired with faster learning and faster iteration cycles, which were extremely important as we were a new team onboard learning the platform. For example, it was open source, so it did not have licensing cost, and when we faced any problem in solving that, we had community support. Same can be used in future projects to bring down the technical barrier as well provide more of the focus to the content delivery and user experience.

2. Implement Early-Stage Low-Fidelity Prototyping: Regardless of creating paper sketches and rudimentary wireframes in the early stages of the project, they had a profound influence on the final product. The early models enabled the team to shape their idea of these scenarios, think through how interactions worked, and experiment with ideas as if there wasn't all the polish in the world. Validating gameplay logic and educational goals, before taking time in development or design, reduced the number of major revisions that needed to be done after. Not only did this save time, but it also improved communication with another stakeholder - the

Regina Humane Society. This practice can be repeated throughout in future projects as to smooth the tire between the planning and implementation phase.

3. Engage Key Stakeholders Upfront: Early engagement with the Regina Humane Society was one of the biggest strengths of the Safe Paws project and thus I had many discussions with Rebecca Carson. For example, we started involving domain experts in the beginning of the whole process to make sure all educational content was relevant and had no problems with regards to accuracy and targets audience. The coin system was fleshed out, the behavioral cues came from, and the narrative tone was based on. This collaboration also helped build credibility and the alignment with real community needs other than content accuracy. If we want our projects to stay mission driven and stakeholder aligned over the course of future development cycles, then these partnerships should be established early.

- **Areas for Optimization**

1. Accelerate Asset Pipeline and Explore External Partnerships: Creating visual and audio assets is where one of the toughest areas lay. The artwork and voiceovers used in the MVP were temporary or AI generated, meaning there was inconsistency in quality, and instances of the word "mike" watermarked throughout the application. The development of these assets was very late in the process and there was not much to refine. In future projects one technique that would be better, would be to start the asset development process earlier, parallel to prototyping, which would then provide for higher quality control and integration. Furthermore, partnering with design students, freelancers or university departments could introduce creative work to the project but at the same cost as the budget, which would result in a higher production value of final product.

2. Adopt Scope Realism from Project Inception: Initially, the project plan included up to five chapters. However, as development progressed, it became clear that completing even one chapter at high quality was ambitious given the available time and resources. A more realistic scope defined at the start would have supported better project pacing and prevented the need to downscale mid-project. By identifying essential features early and limiting non-critical additions, teams can maintain quality and deliver predictable outcomes. In future projects, clearly separating "must-haves" from "nice-to-haves" will improve focus and reduce risk.

3. Integrate Continuous User Validation: Because of time and ethical constraints, the team was not able to carry out real-time testing with children, the intended end user. It is for this reason decisions were made upon stakeholder input instead of direct user feedback. While expert advice was obviously valuable, the first iteration of user testing with a handful of the target demographic might have shed light on how they would actually engage with it, understand it, and use it. Had short feedback loops of usability tests and interviews and gameplay observation been implemented, revisions would have been based upon more evidence. It is especially important that this kind of iterative validation is present in educational products where learning outcomes and user experience are one in the same.

General reflections on the class & project experience (3-5 pages)

- Before taking ENSE 805, were you aware of the UN SDGs?
  - Yes(just a bit) – I had limited awareness of the UN SDGs before this course. My first real exposure came when I volunteered at a local hospital, where I learned about SDG 3 – Good Health and Well-being through various community health education programs. However, I didn't fully grasp how these global goals could directly influence engineering or software design until taking ENSE 805. This course connected the dots between technical innovation and societal impact, showing how engineers can support SDG objectives through thoughtful design.

- Typically, before taking this class, when you engineered software solutions, were you concerned with areas encompassing the UN SDGs?
  - No – While I didn't actively apply the SDGs in past projects, my hospital volunteer experience indirectly introduced me to SDG 3 (Good Health and Well-being). I assisted in basic patient support roles and observed how digital systems helped manage care, schedule services, and streamline communication. It made me realize how critical accessible, efficient software is to patient well-being. Though I wasn't designing those systems, it sparked my interest in how technology could support healthcare access, and later, ENSE 805 helped me understand how that work aligns with sustainable development frameworks.

- Did learning about the UN SDG(s) help you understand better your role and responsibility as an engineer to society?
  - Yes - Prior to ENSE 805 I saw my role as an electronics engineer principally through engineering technicalities aimed at designing circuits as well as embedded systems and sensors and hardware integrations. The elements I associated with success were system performance together with efficiency and adherence to design specifications. The learning experience of UN Sustainable Development Goals (SDGs) during this course transformed my entire understanding of engineering duties in modern society.

  - ENGINEERING 805 demonstrated that professionals who work with technology are obligated to monitor and lead constructive social growth alongside their work as technology creators. Working in the electronics industry gives me awareness about how my efforts help to achieve SDG 3 Good Health and Well-being through medical electronics development and SDG 4 Quality Education through assistive learning devices made using embedded hardware. Hospital volunteering exposed me to the powerful effect basic monitoring equipment has on medical patient treatment outcomes. The experience made me understand that engineering choices guide life-changing applications whenever critical devices serve high-risk fields such as healthcare or education.

  - Electronic design requires thinking about how devices operate in limited resource areas and their power consumption and the ease with which non-technical users can employ them. This course demonstrated that point. The Safe Paws project required developing an offline system which operates on basic hardware in order to provide benefits to children in remote regions.

  - My engineering direction acquired meaningful purpose thanks to my familiarity with SDGs goals. Engineering now appears to me as the opportunity to apply technology solutions which both include all users and demonstrate responsibility while creating lasting effects for human needs.

- What was your experience(s) in engineering your specific software solution to address the UN SDG(s) selected?
  - Working on Safe Paws provided a direct opportunity to engineer with purpose, targeting SDG 4 (Quality Education) and SDG 15 (Life on Land). Through this project, we applied game-based learning to teach children how to interact safely with pets. I found the process very fulfilling because the problem was community-identified, and the solution had real-world impact—especially in areas where proper pet safety education is missing.

  - We applied the principles of tech stewardship, community collaboration, and human-centered design, and I could clearly see how engineering decisions—from the choice of platform to the structure of gameplay—were guided by the SDG framework. It felt like working on something that mattered—not just to stakeholders, but to future generations.

- As a future engineer, what are your thoughts on the UN SDGs as a whole? Do you think they can help or hinder our work as software engineers?
  - The United Nations Sustainable Development Goals operate as a framework which supports engineering work in software and electronics fields as well as other engineering disciplines. The framework of SDGs guides engineers to measure their work on two levels: consideration of the development purpose and identification of beneficiary groups.

  - SDGs represent essential landmarks rather than additional tasks since they provide my engineering practice with essential goals to achieve. These goals guide engineers to work on fixing essential problems which include enhancing education standards and safeguarding natural resources and developing public health programs particularly for neglected groups. Using the SDGs leads to innovations because these guidelines drive engineers toward original solutions that enhance human service with technology.

  - The worldwide presence of technology in daily existence underscores our duty to construct systems which prioritize ethics along with inclusivity and sustainability since the sustainable development goals (SDGs) show us that our efforts generate meaningful change. Our use of the SDGs as our navigation tool enables us to generate meaningful progress toward building a better world without neglecting the development of technology connections.

- Should we use the UN SDGs to guide our work or is our work dependent on customer requests, regardless of the UN SDGs?
  - The goal should be finding the right equilibrium between them. Any software development requires customer demand acknowledgement yet designers must integrate ethical alongside social principles into their design strategy. Engineers have the responsibility to find ways to integrate SDG-aligned solutions into their work even when clients do not specify this requirement because engineers can identify strategic opportunities for alignment.

  - Safe Paws received educational and safety approaches from its client yet we reoriented the goals through SDG integration to deliver organization, worldwide significance along with long-term perspective.

- Will you use your understanding of the UN SDGs in engineering solutions in the future?
  - Yes – Absolutely. The key lesson I learned from ENSE 805 shows engineering solutions comprise technical components as well as instruments that modify social dynamics. The UN SDGs provide me with an essential evaluation system for examining the impact of inclusivity and sustainability in each engineering project I participate in. Therefore, I decide to consistently link my future engineering work to at least one related SDG goal from the list.

  - My focus would be on SDG 3 (Good Health and Well-being) when working on healthcare devices because I ensure these devices enhance access to vital services targeted at marginalized populations. An educational tool I develop will link to SDG 4 (Quality Education) through its design approach which will focus on accessibility and language support and offline functionality. I will examine energy consumption together with environmental impact and recyclability within my hardware projects because SDG 12 (Responsible Consumption and Production) plays a critical role.

  - My background knowledge enables me to formulate improved design questions during the process through inquiries about technology access limitations and environmental reduction strategies as well as positive reinforcement testing. SDGs have transformed into an active approach to value-driven innovation which I will use moving forward during my academic pursuit and career development.

- Will your experience learning about the UN SDGs inform your career path decisions in the future?
  - Yes- Implementing knowledge from the SDGs caused a major transformation of my professional trajectory as an engineer. The courses provided me with minimal exposure to engineering's technical aspects before this point. I now invest more effort to understand the purpose of building things along with considering their real beneficiaries.

  - The course exposed me to the transformative power of engineering as it pertains to sustainability and equity if its purpose remains well-intentioned. This lesson has inspired me to find employment in areas or businesses which deliver technical solutions to community problems affecting disadvantaged groups. The SDG experience has shaped my professional journey toward pursuing non-profit technology roles within innovation teams for public service or startup development in education, health, environmental conservation and community betterment.

  - My experience with SDGs revealed new goals that help guide my professional plans with meaning and clear direction. My goal extends beyond creating objects to create purposeful solutions because this mindset will drive my career selection process.

- Provide any other comments on the project
  - I consider The Safe Paws project to be the most valuable academic experience I have undertaken thus far. My experience using Godot Engine along with the understanding of educational game efficiency emerged through designing games collectively based on purposeful empathy. Our work gained significance through our direct interaction with the Regina Humane Society stakeholder since it proved that student projects can address important real-world needs.

- ENS 805 provided me with a new perspective of engineering because it demonstrated that the practice extends beyond solving technical challenges to developing solutions for social evolution. Through my studies I developed sound capabilities in applying SDGs alongside CoPs and stewardship models as well as project planning structures which increased my confidence in performing positively as an engineer in upcoming roles.