*SafePaws:**Community Animal Safety Video Game*

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*Abstract*—The interactive storytelling video game Safe Paws delivers education about safe pet interactions to children through its gameplay. The traditional educational system fails to maintain pupil attention which results in young children having trouble storing essential safety lessons. Decision-based learning forms the core of this project since it guides players through real-life experiences to learn proper pet interaction techniques. Through an immersive and interactive approach, Safe Paws fosters awareness, empathy, and informed decision-making. Animal welfare organizations support game development to establish an organized and comprehensive educational model for pet safety. Safe Paws functions in harmony with worldwide educational campaigns by using experiential learning methods to improve information retention among students. This innovative resource supports community awareness development through its accessible design which encourages responsible pet ownership. The game provides an adaptable framework which educators can utilize to teach pet safety in various educational settings of different sizes.

Keywords— Educational Video Game, Pet Safety, Gamification, Godot Engine, Child Safety Education, Interactive Learning

# Introduction

## Motivation and Context

The need to educate children about safe pet interactions has become increasingly important, particularly in Regina, Saskatchewan, where incidents of dog bites and unsafe encounters with pets have been a persistent concern. Traditional educational methods such as booklets, classroom lectures, and videos have struggled to engage young learners effectively, often resulting in limited knowledge retention. These passive approaches fail to provide children with the practical decision-making skills required for real-life encounters with pets. Consequently, children may be unaware of the warning signs animals exhibit before reacting aggressively, which increases the risk of pet-related injuries. This knowledge gap not only endangers children’s safety but also places additional strain on organizations such as the Regina Humane Society, which works to promote responsible pet interactions.

In response to this challenge, Safe Paws was developed as an interactive storytelling-based video game aimed at educating children aged 6-10 on responsible and safe pet interactions. The game presents children with real-life scenarios in which they must make informed decisions to ensure safe interactions with pets. By combining educational content with engaging gameplay, Safe Paws helps children understand animal behavior, avoid unsafe situations, and develop empathy toward animals. The interactive nature of the game reinforces learning by offering immediate feedback on choices, helping children understand the consequences of their decisions.

The development of Safe Paws is being conducted under the supervision of Rebecca, a representative from the Regina Humane Society, who provides expert guidance to ensure the content is accurate, engaging, and aligned with best practices in pet safety education. Rebecca’s involvement ensures that Safe Paws reflects the realities of common pet encounters in Saskatchewan, particularly in urban and rural environments where children may interact with pets in a variety of settings. The game also integrates insights from animal behaviorists and local experts, ensuring that the scenarios align with appropriate behavioral responses for both dogs and cats. Through this collaborative effort, Safe Paws aims to deliver a proactive educational tool that effectively equips children with practical skills for safe pet interactions.

## Objectives

The main goal of Safe Paws involves teaching children how to recognize pet safety while providing them with essential competencies to handle encounters with real animals. The game puts priority on preparing children with safe behaviors through educational programs so they can handle animal encounters appropriately after becoming adoptees. The program acts as a pet safety prevention measure which protects children from dog bites and scratches and aggressive animal encounters due to misunderstandings of unsafe behavior.

The game application Safe Paws supports United Nations Sustainable Development Goals with focuses on Quality Education (SDG 4) and Life on Land (SDG 15). Students gain quality education through the game which combines education content with decision-making interactivity. Real-life case scenarios during meetings with dogs on leashes as well as interactions with strays and knowledge about dangerous animal behavior become the foundation for practical skills which Safe Paws teaches children to observe and behave safely.

As an example of SDG 15's application the game teaches users about animal welfare by developing their empathy toward domestic animals. The application teaches children to read pet signals and safe interaction boundaries thus it lowers dangers for animals as well as kids.

The development process of Safe Paws united professionals from three groups including game designers and educators with representatives from the Regina Humane Society to blend educational value with gameplay enjoyment. The developers focused on visual aids together with audio cues and decision-driven storytelling because they aim to enhance knowledge retention and engagement levels of younger audiences.

# Literature Review

## Comparative Analysis

In developing Safe Paws, careful consideration was given to identifying relevant educational games that address animal interaction and safety. While several educational games exist, JumpStart Pet Rescue and Animal Jam Classic were selected for comparison due to their thematic relevance, educational objectives, and interactive elements. These two games align closely with Safe Paws’ goal of combining education with engaging gameplay.

The researchers chose JumpStart Pet Rescue because it teaches youngster pet care skills through interactive games then selected Animal Jam Classic because it educates children about animal behavior through its wildlife and environmental themes. The games incorporate educational elements to promote responsible animal interaction even though they lack direct pre-adoption pet safety materials present in Safe Paws. These games have strong potential to serve as educational comparisons. The other selected games did not demonstrate sufficient expertise in pet care education to be considered meaningful contrasts. A comparative evaluation of these educational approaches examines how Safe Paws establishes its distinctive role as a pre-adoption pet safety education system.

Educational games function as essential educational instruments which teach children crucial concepts about pet safety along with responsibility training and conservation methods. Each of the three platforms including Safe Paws and JumpStart Pet Rescue and Animal Jam Classic uses a different educational strategy. These educational methods together demonstrate their impact on teaching students about pet safety through interactive narratives alongside directed tasks while granting them free movement.

Safe Paws is a pre-adoption pet safety educational tool, ensuring children learn how to interact with pets safely before adoption. In contrast, JumpStart Pet Rescue introduces basic pet care principles but is tailored for preschoolers with limited safety decision-making elements. Animal Jam Classic is an open-world multiplayer game that focuses on wildlife conservation rather than structured pet safety education.

## Comparison Table

| Features | Games | | |
| --- | --- | --- | --- |
| Safe paws (Our Games) | Jumpstart pet rescue | Animal Jam Classic |
| Target Audience | Children (6-10), families in Regina | Preschoolers (3-6 years) | General audience (7-12 years) |
| Primary Learning Method | Interactive storytelling & decision-making | Mini games & interactive tasks | Open-world exploration & learning activities |
| Focus Area | Pre-adoption pet safety education | General pet care & early learning | Wildlife education & conservation awareness |
| Engagement Level | High – scenario-driven learning | Moderate – task-based gameplay | High – exploration-based multiplayer world |
| Realism in Pet Interactions | High – real-world scenarios and guided responses | Moderate – focuses on virtual pet care | Low – fantasy animals, minimal real-world pet interactions |
| Gamification Elements | Strong – story progression, rewards for safe choices | Moderate – progression through tasks | Strong – badges, achievements, and in-game economy |
| Accessibility | Digital, available for personal or school use | Nintendo Wii console game | Online multiplayer game |
| Educational Impact | High – teaches real-world pet safety before adoption | Moderate – introduces pet responsibility but lacks decision-making depth | Moderate – promotes wildlife awareness but lacks structured safety education |

## Key Insights and Conclusion

Safe Paws emerges as an exceptional game because it teaches pre-adoption pet safety through its interactive narrative features thus serving as an active method to stop injuries involving pets. Safe Paws differs from JumpStart Pet Rescue since it uses real-life scenarios to teach children safe responses before meeting pets while the latter concentrates on basic pet care teaching through mini-games. The interactive framework of Animal Jam Classic succeeds in wildlife preservation but does not provide systemized material for actual pet protection instruction. The decision-making approach contained in Safe Paws delivers instant feedback which makes it superior at teaching essential safety habits before children meet real pets.

The research analysis shows that Safe Paws stands alone in offering solutions for neglected pet safety education knowledge. Safe Paws offers practical education alongside child-friendly gameplay to deliver necessary pet safety knowledge alongside entertainment features which JumpStart Pet Rescue and Animal Jam Classic provide. The model implemented through Safe Paws enables a method that can expand to enhance pet safety education for families as well as schools and communities.

# Methadology

## Overview of the game

Safe Paws is a 2D educational game designed to teach children safe pet interaction techniques through interactive storytelling. Inspired by the Zoe and Molly Internet Safety Game, Safe Paws presents real-life scenarios where players must make informed decisions to reinforce proper pet behavior. The game’s primary objective is to prepare children aged 6-10 for real-world encounters with pets by promoting safe and responsible interactions.

The game is structured around multiple educational scenarios that focus on practical learning rather than visual complexity. The game’s simple background design ensures that children remain focused on decision-making and learning outcomes. Additionally, sound effects are integrated to provide immediate feedback, reinforcing positive behaviors and alerting players to unsafe choices.

## Development Framework

Safe Paws is developed using the Godot Engine, an open-source and lightweight framework optimized for 2D game development. The Godot Engine was selected due to its flexibility, efficiency, and suitability for interactive storytelling mechanics. The key features that make Godot ideal for Safe Paws include:

* Efficient 2D Optimization for smooth performance across devices.
* Multiple-choice interaction mechanics to support decision-based learning.
* Offline functionality to ensure accessibility in rural Saskatchewan areas where internet connectivity may be limited.
* Cross-platform compatibility, allowing Safe Paws to be deployed on tablets, smartphones, and desktop systems.

Godot’s scripting language, GDScript, enables flexible programming for dynamic interactions, ensuring that feedback mechanisms within the game respond promptly to player choices.

## Game Development Process

The development of Safe Paws followed a structured learning-to-implementation process. Since the development team was new to Godot Engine and its scripting language Adscript, they initially created a simple Mario-inspired platformer game by following YouTube tutorials. This initial project provided valuable hands-on experience in Godot’s interface, scene structure, and scripting principles. Completing this small project successfully enabled the team to confidently move forward with Safe Paws’ development.

The development process for Safe Paws began with the design and implementation of the Dog Safety Chapters, which served as the foundation for building core game mechanics such as interactive decision points, multiple-choice responses, and real-time feedback. After completing the dog-related scenarios, the development team proceeded to implement the Cat Safety Chapters, refining both content and functionality based on insights gained during earlier stages. This phased approach ensured that development challenges were managed effectively, enabling the team to gradually build expertise while enhancing the game’s design and educational content.

## Game Design and Scenario Development

Safe Paws is structured into five educational scenarios, designed to teach children appropriate behaviors in common pet encounters. Each scenario follows a structured design that promotes understanding through four key steps:

1. Introduction of the Scenario – Players are introduced to a realistic encounter with a dog or cat.
2. Decision Points – Players are presented with multiple options to determine the best course of action.
3. Immediate Feedback – Correct decisions are reinforced with positive cues, while incorrect choices prompt educational explanations to improve learning outcomes.
4. Progression and Rewards – Players progress by successfully demonstrating safe behaviors, earning virtual rewards for completing chapters effectively.

### Dog Safety Chapters

#### Meeting a Dog on a Leash

Players are taught to ask permission before petting, offer a fist for sniffing, and to pet the dog under the chin for safety.

Feedback ensures players understand the importance of respectful and calm behavior when approaching a leashed dog.

#### Meeting a Stray Dog on the Street

Players learn to stand like a tree (hands closed, legs together, no eye contact) if approached by a stray dog.

In case of physical contact, players are instructed to lie like a log (face down, protecting the neck).

#### Hearing a Dog Barking Behind a Fence

Players are guided to avoid the fence, refrain from teasing the dog, and walk away calmly to prevent provocation.

### Cat Safety Chapters

#### Seeing a Hurt Cat

Players are encouraged to maintain a safe distance and seek help by contacting Animal Protection Officers.

#### Encountering a Stray Cat with Kittens

Players learn not to approach or attempt to pick up the cat or its kittens. Instead, they are advised to call local authorities for assistance.

* A screenshot of a video game

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1. Regina Leader-Post, "Humane Society Urges Responsible Pet Ownership to Prevent Dog Bites," 2019. [Online]. Available: <https://leaderpost.com/life/local-life/humane-society-urges-responsible-pet-ownership-to-prevent-dog-bites>
2. Canadian Paediatric Society, "Dog Bites Position Statement," [Online]. Available: <https://www.cps.ca/en/documents/position/dog-bites>
3. United Nations, "Sustainable Development Goals," [Online]. Available: <https://sdgs.un.org/goals>

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