Construction of 2D Animated Film for Children on Self-Protection Skills Against Common Dangerous Situations in Life

Hoàng Việt Triều
Thai Nguyen University of Information and Communication Technology
Thai Nguyen University, Thai Nguyen, Vietnam
student437@ictu.edu.vn

***Abstract*—This thesis presents the construction of a 2D animated film for children focusing on self-protection skills against common dangerous situations in daily life. The project resulted in a completed animated film titled 'Friendship', which includes five scenarios: drowning, electric shock, traffic accidents, burns, and getting lost. The film was created using software tools such as Moho, Adobe Illustrator, and Adobe Premiere. The author evaluated the script, character design, and overall production quality, noting that the film adhered to the approved script and achieved good visual and audio quality. The film was designed to educate children on self-protection and was intended to contribute to the development of children's personalities. The author also discussed the potential of 2D animation in education and entertainment, highlighting its cost-effectiveness and rapid production time. The Vietnamese government supported the development of educational animated films, providing a favorable environment for the project.**

***Index Terms*—2D animation, self-protection, children, education, animation software, scriptwriting**

I. Introduction

The thesis provides an overview of 2D animation, its history, and current development in Vietnam. It emphasizes the importance of 2D animation in education and entertainment, particularly in teaching children self-protection skills. The author chose this topic to contribute to the field of Vietnamese animation and education. The project involved the creation of a 2D animated film titled 'Friendship', which aimed to educate children on self-protection skills through five scenarios: drowning, electric shock, traffic accidents, burns, and getting lost. The film was designed to address a gap in the market for educational content aimed at children's self-protection [1].

II. Methods

The author used software tools like Moho, Adobe Illustrator, and Adobe Premiere to create the animated film. The project involved scriptwriting, character design, animation, sound recording, and video editing. The film was divided into five scenarios: drowning, electric shock, traffic accidents, burns, and getting lost, each teaching specific self-protection skills. The author evaluated the script, character design, and overall production quality, noting that the film adhered to the approved script and achieved good visual and audio quality. The film was designed to educate children on self-protection and was intended to contribute to the development of children's personalities [1].

Supervisor: Đỗ Thị Phượng, Thai Nguyen University of Information and Communication Technology.

III. Results

The completed animated film titled 'Friendship' was produced, featuring five scenarios. The author evaluated the script, character design, and overall production quality, noting that the film adhered to the approved script and achieved good visual and audio quality. The film was designed to educate children on self-protection and was intended to contribute to the development of children's personalities. The author also mentioned the support from the Vietnamese government for the development of educational animated films, providing a favorable environment for the project [1].

IV. Discussion

The author discusses the potential of 2D animation in education and entertainment, highlighting its cost-effectiveness and rapid production time. The film was designed to address a gap in the market for educational content aimed at children's self-protection. The author also mentions the support from the Vietnamese government for the development of educational animated films, providing a favorable environment for the project. The author notes that the project successfully addressed the initial requirements and solved the issues encountered during production. However, there are still areas for improvement, such as character design, camera angles, and animation smoothness. The author plans to continue learning and improving in the future [1].

V. Conclusion

The author concludes that the project successfully addressed the initial requirements and solved the issues encountered during production. However, there are still areas for improvement, such as character design, camera angles, and animation smoothness. The author plans to continue learning and improving in the future. The completed animated film titled 'Friendship' was produced, featuring five scenarios: drowning, electric shock, traffic accidents, burns, and getting lost. The film was designed to educate children on self-protection and was intended to contribute to the development of children's

personalities. The author also mentioned the support from the Vietnamese government for the development of educational animated films, providing a favorable environment for the project [1].

References

[1] Hoàng Việt Triều, ”Construction of 2D Animated Film for Children on Self-Protection Skills Against Common Dangerous Situations in Life,” internal undergraduate thesis (original in Vietnamese), Thai Nguyen University of Information and Communication Technology, 2021.

[2] Nguyễn Văn Huân, Vũ Đức Thái (2006), Kỹ thuật lập trình mô phỏng thế giới thực dựa trên Morfit, Nhà xuất bản Khoa học & Kỹ thuật, tr. 9-21. Tiếng Anh

[3] Jerry Banks (1998), Handbook of simulation: Principles, Methodology, Advance, Applications, and Practice, pp. 3-6

[4] William T. Reevesm (1983), Particle System – A Technique for Modeling a Class of Fuzzy Object, Computer Graphics, Volume 17, Number 3, pp.359-375

[5] G. van den Bergen (1997), Effcient Collision Detection of Complex Deformable Models using AABB Trees, Journal of Graphics Tools , vol. 2, No. 4, pp. 1-14

[6] DongGyu Park and Mirina Jo and SangHyuk Woo and DoHoo Lee (2008), A Fire and Smoke Simulation for Mobile Game, International Journal of Software Engineering and Its Applications, Vol 2, No 4

[7] R. Bridson (2008), Fluid Simulation for Computer Graphics,A K Peters

[8] Shengfeng He1and Hon-Cheng Wong and Un-Hong Wong (2011), An Efficient Adaptive Vortex Particle Method for Real-Time Smoke Simulation, Computer-Aided Design and Computer Graphics

[9] Andrew Selle and Nick Rasmussen and Ronald Fedkiw (2005), A Vortex Particle Method for Smoke, Water and Explosions, Stanford University

[10] Andrew Kickertz (2012), Collision detection algorithms

[11] P. Jime’nez and F. Thomas and C. Torras (2010), 3D Collision Detection: A Survey, Journal of Computers and Graphics, vol. 25, No. 2, pp. 269-285

[12] Roger McHaney (2009), Understanding Computer Simulation, pp. 9-14

[13] Sean James (2010), 3D Graphics with XNA Game Studio 4.0, Packt Publishing. 67 68