

# **Video Games: A Study of the Impact of Controller Design on Gamer Experience**

**Ruby Rogers**

**Occupational Safety and Health Engineering**

**Dr. Arijit Sengupta**

**IE: 700B**

**New Jersey Institute of Technology**

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# Abstract

The purpose of this research was to determine what criteria is considered when developing a new video game controller, how game controller design had an effect on the overall user experience, and why a focus on improving the user experience is so important. Since video game controllers are used in a similar manner to hand tools, ergonomic assessment criteria for hand tools were studied and evaluated with respect to video game controllers that have been developed over the past three decades. Examples of how these ergonomic considerations were taken into account and were observed from evolutions of one game controller to another. Aspects other than ergonomics were also evaluated, such as how the shape of the controller affects how a user will play the game and the type of experience he or she will have.

A few controllers for the most popular game systems were examined for major evolutions in controller design. Milestone designs such as progressing from sharp square edges to round edges and the incorporation of single and double thumbsticks were evaluated. Relationships were drawn between these design changes in order to help understand design progression in the video game industry over time.

Positive user experience, commercial accessibility, and feasibility of use are many of the reasons why video games have been utilized for innovations in other industries such as the medical field, health and wellness, and education, to name a few. Future designs of video game controllers will help further new developments in these industries and possibly aid with advances in other industries as well.

In conclusion, video game controller design plays a significant role in helping improve the overall user experience. Therefore, great attention should be paid to all physical design aspects of video game controllers.