

Creation of a Mechanical Gaming Keyboard

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Abstract- Our aim is to create a kind of keyboard which is capable of providing its users with a typical gaming experience even on a plain, standard fashion built mechanical keyboard. The user will be able to experience special effects of a gaming keyboard with almost all of its special features and functions in a regular standard keyboard.

Index terms- Keyboard, Standard, Mechanical, Features, advancement.

I. INTRODUCTION

The common keyboards of today's era are seen only as an interface to provide ordinary input to the computer system.

In a gaming environment, the standard keyboard is not so much favored and does not own a likably decent place and only a minimal of features the keyboard provides are actually useful in a gaming environment.

This condition of keyboards is because standard keyboards were just not meant to be beneficial for such conditions. Their manufacturing was not done keeping the gaming users in mind or their thought was of minimum interest and requirement.

However, the times have changed and so has the need for a high-end keyboard. Today, people worldwide have high expectations from the hardware of the computer of which, keyboard is no exception.

Our version of the keyboard will have features a gamer will have ever dreamt of and his expectations will be fulfilled and with total satisfaction, we aim to deliver this product to every aspiring gamer who wished that his keyboard could just be something more than just being a keyboard.

II. RELATED WORK

There exists a broad range of research works focusing on user experience improvement in virtual keyboard using sensory modality. Auditory feedback

can be a good solution to improve the user experience on keyboards, but it has clear limitation in noisy environment. Visual feedback is the most commonly used modality for user experience and usability of keyboard. Sears investigated the palm-style QWERTY keyboard, and they changed their keyboard size and location to investigate the user performance. Even though the size does not affect the user's typing performance, they revealed that there is a difference in user performance between numeric. This is clearly showed that the location of keyboard is also important factor for the user experience.

III. OBJECTIVE

Our objective is fairly simple. We aim to build a user friendly gaming keyboard with the specifications of a normal standard keyboard. But with the additional functionalities of a gaming user friendly required features. All in a single standard mechanical keyboard with which a gaming focused user will no longer have to compromise with the conditions and can experience optimum gaming features without the concerns of standard keyboard problems.

IV. LITERATURE REVIEW

A gaming keypad is a small, auxiliary keyboard designed only for gaming. It has a limited number of the original keys from a standard keyboard, and they are arranged in a more ergonomic fashion to facilitate quick and efficient gaming key presses. The commonly used keys for gaming on a computer are the 'W', 'A', 'S', 'D', and the keys close and adjacent to these keys. These keys and style of using a keyboard is referred to as WASD. A gaming keypad will not only optimize the WASD layout, but will often contain extra functionality, such as volume control, the Esc. Key and the F1-F12 keys.

The two primary, and most commonly used, devices for players to use when gaming on a computer are the

mouse and the keyboard. While both are integral in the interaction of the game, their evolutionary track has not been equal.

The mouse, over the years, has had better adaptation and incorporation into gaming than the keyboard has. This could easily be attributed to the fact that the mouse is a much more simplified device. The mouse has had many advances to make it a much more adapted device for gaming. It has been upgraded from a rolling ball to an optical sensor, and the optical sensor has been upgraded to a laser. The results of these progressions have allowed players increased sensitivity and accuracy while in a game environment. The mouse has also been equipped with increasingly more buttons. Starting with two buttons, the mouse can now be found with up to seventeen buttons. Buttons have also become programmable, such that the player can perform a greater variety of actions with their mouse.

The keyboard has not seen as much advancement in terms of making it a formidable gaming device. The keyboard is mostly viewed as simply a conglomeration of over a hundred keys that are placed and configured for typing efficiently, not for navigating a character through a virtual world. There have been some modifications made to keyboards to entice a gamer, such as adding macro buttons on the perimeter of the keyboard, or having keys that glow in the dark. Still today the shape and layout of a keyboard remains the same, optimized for word processing but not gaming.

Recently, certain companies have started to introduce mini-keyboards, or sub-keyboards, that are specifically designed to maximize the gaming experience. These are commonly referred to as gaming keypads

V. BENEFITS OF GAMING KEYBOARD

The benefits of having a gaming keypad over a traditional keyboard are many.

Reduced size - Whether the player is looking to free up desktop space while they are gaming, or are looking for a keyboard that is more conducive to resting in their lap while they sit back and indulge their gaming desires, a keypad can give them the option of something much more manageable.

Ergonomic design – Many of the new keypads have been designed such that they are as comfortable to use as possible while gaming. This reduces the amount of fatigue that the player's hand experiences while playing. It also reduces the possibility of hand injury that could occur from prolonged use of a keyboard.

More available keys – While most of the keypads do not invent new buttons, they do make more of the already existing buttons more accessible to the fingertips without having to relocate or move the entire hand. Some of them can almost double the amount of buttons that could be normally reached by the hand and fingers.

Extras – for example; volume control, macro buttons, quick keys, USB ports, or headset ports.

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VI. ARCHITECTURE



VII. CONCLUSION

As a result, the project is achieved as expected and the end results are satisfactory. With the help of our project guide and proper resources, we were able to achieve the goals and objectives set before us.

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