Daniel Krivacic

# Your game, your way

The iphones multi-touch technology has introduced a whole new way to play.

# Your game, your way

Daniel Krivacic

Console and PC gaming has dominated the gaming industry for many years but over the past decade we have seen a rise of whole new form of gaming, mobile gaming. A platform that has began to dominate the industry all thanks to the release of the Apple iphone in 2007 introducing **multi-touch technology** to smartphones. Mobile gaming is a form of gaming that has not only provided a new platform, easy access and portability of gaming but introduced a whole new way to play.

Mobile games were first introduced in the late 90s and were considered 'time killer games' as they were simple games that easily accessed anytime but were limited due to the phones functions. The Iphone introduced a new type of phone which removed the major barriers in mobile devices allowing mobile gaming to become a successful platform. Unlike previous mobile devices consisting of a small screen and a keyboard with small buttons, the iphone introduced a screen that takes up majority of the phone and uses **mutual capacitive multi-touch technology** to control the devices functions.

#### Mutual Capacitive touch technology uses

capacitive material to hold an electrical charge. The amount of charge is changed at a specific point of contact where the finger is placed on screen to provide touch information. The **Capacitors** are arranged into a coordinate system so the circuitry detects changes at each point along a **grid** where each point generates a different signal to each other which is called **mutual capacitance**. The grid consists of the transmitting layer carrying electricity across the screen to the sensing layer where the electrical charge is recieved.

**Capacitive touch** allows for multiple signals to be detected at the same time bringing the ability of **multi-touch**. **Multi-touch** also detects movement by tracking touch at a certain locations overtime to trace the direction of finger movement on screen. This has allowed for users to perform **guestures** with their fingers on screen such as swiping, draging and pinching the screen with two fingers to zoom.

The user is able to interact with the phone like never before with the ability to just



#### Determining guestures and movement



touch what is displayed on screen to access or enable a function providing a better user experience without the restrictions of a built in keyboard to control the phone. The iphone allows the software to be designed for each function and/or application to be designed specifically to suit the function on the device.

Mobile gaming has been able to evolve and dominate due the developers freedom to design controls that works best and suits their game being only restricted to touch. Mobile games have been able to have their own designed controls by creating visible buttons to be displayed on screen. These controls can be touched and activate actions to occur in the game allowing console based games to function well on a mobile device. Other games have been able to be designed with their own style of controls to best suit their game with many games designed for finger swiping, tapping and the ability to freely touch visuals on screen to play. The technology has not only removed the restrictions of mobile gaming but infact lead to the development of a style of gaming which can only be played on smartphones and not on any other gaming device.

The technology has not only made it possible for major companies to develop games that work well on mobile devices but the opportunities for solo designers or small groups of developers to develop simple games which can all be downloaded and played on the device.

The iphone was the start of the smartphone gaming revolution bringing major possibilities to gaming like never before. It has provided the ease of portability without having to own or carry another portable gaming device around. It has has made gaming more user friendly and interactive and designed to be more adaptive to the game as well as brought the possibilities of a new style of gaming. The release of the iphone has lead to the revolution of gaming across all smartphone devices providing more ways to game compared to other platforms all in a device which we all use in our everday lives.

#### Programed touch controls





Visual display of touch controls and interaction



#### **References:**

.Wilson, T., Chandler, N., Fenlon, W. and Johnson, B. (2018). How the iPhone Works. [online] HowStuffWorks. Available at: https://electronics.howstuffworks.com/iphone1.htm [Accessed 8 Oct. 2018].

Ongoing chatter from a materials girl curious about matter. (2018). How does the iPhone touch screen work?. [online] Available at: https://matterchatter.wordpress.com/2012/06/16/ how-does-the-iphone-touch-screen-work/ [Accessed 8 Oct. 2018].

Multimedia.3m.com. (2018). [online] Available at: http://multimedia.3m.com/mws/

media/7884630/tech-brief-projected-capacitive-technology.pdf [Accessed 14 Oct. 2018]. Wijman, T. (2018). Global Games Market Revenues 2018 | Per Region & Segment | Newzoo. [online] Newzoo. Available at: https://newzoo.com/insights/articles/global-games-marketreaches-137-9-billion-in-2018-mobile-games-take-half/ [Accessed 28 Oct. 2018].

Mobile Free to Play. (2018). Touch Control Design: Ways of Playing on Mobile — Mobile Free to Play. [online] Available at: https://mobilefreetoplay.com/control-mechanics/ [Accessed 16 Oct. 2018].

## How it all works



### The growth of mobile gaming revenue earned each year



### Annual renvenue earned in Billions



#### References:

Wijman, T. (2018). Global Games Market Revenues 2018 | Per Region & Segment | Newzoo. [online] Newzoo. Available at: https://newzoo.com/insights/articles/global-games-market-reaches-137-9-billion-in-2018-mobile-games-take-half/ [Accessed 28 Oct. 2018].

WePC.com. (2018). 2018 Video Game Industry Statistics, Trends & Data - The Ultimate List. [online] Available at: https://www.wepc.com/news/video-game-statistics/#mobile-gaming [Accessed 19 Oct. 2018].