**-PRODUCT DESIGN THINKING FRAMEWORK**

**-QUANTUM UNIVERSITY**

**-01**

**-TASK NO.01**

**-CHOOSE A PRODUCT OF YOUR INTREST TO FIND THE SOLUTION THROUGH**

***TASK 1***

Product Name – **Apple MacBook touchbar (2016-2021)**

**Product description**:

* The touch bar was a thin, OLED TOUCHSCREEN STRIP located above the keyboard.
* It is used to replace the traditional function keys on MacBook pro models.
* It was introduced as a DYNAMIC CONTROL INTREFACE, allowed users to access shortcut, emojis, media control, and app specific tools.

**Product features:**

* DYNAMIC TOUCH-SENSITIVE OLED DISPLAY: -

Replace traditional function keys with a customizable touchscreen strip.

* CUSTOMIZABLE SHORTCUTS: - Users could modify the touch bar with frequently used commands.
* TOUCH ID INTEGRATION: - Enabled secure login, app authentication, and Apple pay transactions.
* SIRI ACCESS: - Included a dedicated button to activate Siri instantly.

**Product issues:**

* Apple designed T1 chip and later T2 chip to power the touch bar and provide security features but unfortunately T2 chips often cause unresponsiveness, UI glitches, and even complete failure of touch bar.
* The T2 chips inefficient power management leads to overheating issues and causing the Touch bar to freeze or crash.
* Users preferred physical function keys because of the touchscreen lacked tactile response, and as it complicates simple tasks like adjusting volume and brightness.
* Since the Touch bar was sensitive, users accidentally activated control while typing and it was prone to dead pixels and screen burn-in.

**How to Improve(suggestions):**

* Instead of replacing functions keys, Apple could introduce a HYBRID MODEL with both PHYSICAL FUNCTIONS KEYS AND A CUSTOMIZABLE TOUCH BAR.
* A larger more flexible Touch bar or touch sensitive areas around the trackpad could improve the usability, and instead of simple taps users could perform multi touch gestures like pinch to zoom, swipe to switch within the apps.
* Instead of being fixed in one place a removeable touch bar could be an external attachable accessory, allowing user to use as per their needs and requirements.
* To find and improve the T2 chips problems and touch bar consumed battery unnecessary optimizing its power usage and allow users to turn it off completely when not needed