GROUP NO: 13

i. List 3 innovations by Doug Englebart as described in the readings and other sources explain to what extent HCI has evolved today with respect to those innovations

Doug Englebert was a pioneering computer scientist and inventor, best known for his work on the development of the computer mouse and the concept of hypertext. The following are the three of his most significant innovations:

a) **The Computer Mouse:** The mouse was developed at Stanford Research Laboratory in 1965 as part of the NLC project It was intended to be a cheap replacement for light pens, which had been used at least since 1954.Many of the current uses of the mouse were demonstrated by Doug Engelbart as part of NLS in a movie created in 1968. Today, the mouse has become a ubiquitous input device, but its design has evolved significantly from the original prototype. Modern mice often have additional buttons and scroll wheels, and many users have switched to other input devices such as touch pads, touch screens, or stylus pens.

b) **Graphical User Interface:** is the method in which users interact with their computers. Originally,

computers came as just blocky text and required extensive knowledge of coding and computing interfaces to operate. Engelbart's thought process helped to change this. He was one of the first to come up with the concept of creating GUIs that could be easily used by other individuals.

c) **Hypertext:** In the 1960s, Englebart envisioned a new way of organizing and navigating information called hypertext. Hypertext allows users to link documents and pages together using clickable links, creating a web of interconnected information. Today, hypertext is a fundamental concept of the World Wide Web, and modern web browsers and search engines have made it easier than ever to find and explore linked information.

ii. Choose one major contribution to the development of HCI and briefly explain it. Describe the impact of this contribution on further developments**.**

One major contribution to the development of Human-Computer Interaction (HCI) is the development of the graphical user interface (GUI) by Xerox PARC in the 1970s. The GUI is a visual way of interacting with a computer system that uses icons, menus, and windows to represent programs and data.

Before the development of the GUI, computer systems were primarily text-based, requiring users to type commands to perform tasks. The GUI revolutionized computing by making it more accessible to non-experts, allowing users to interact with the system using a more intuitive and visual approach.

The impact of the GUI on further developments in HCI has been significant. It has influenced the design of modern operating systems, such as Windows, MacOS, and Linux, and has led to the development of new interaction techniques, such as touch screens and gesture recognition.

The GUI has also had an impact on the development of web design, leading to the creation of graphical interfaces for websites and applications. In addition, it has influenced the development of mobile interfaces, with many mobile devices now using touch-based graphical interfaces similar to those of the GUI. Actually the development of the graphical user interface has been a major contribution to the development of HCI, making computing more accessible and user-friendly, and influencing the design of modern systems and interfaces.

iii. As We May Think Article.

"As We May Think" is a seminal article written by Vannevar Bush in 1945 that discusses the potential impact of technology on human knowledge and innovation. The article is still regarded as a very useful publication today for several reasons.

Firstly, Bush's vision of a future technology called the "Memex" - a kind of desk-sized device that could store and retrieve information in a manner similar to the human brain - was an early articulation of the idea of hypertext and the World Wide Web. Many of the ideas and concepts presented in the article were foundational to the development of modern computing and information technology.

Secondly, the article is still relevant today because of its emphasis on the importance of collaboration and interdisciplinary research. Bush argued that advances in technology would require people from different fields to work together and share information, a prediction that has proven to be true in many ways.

Finally, the article is still widely read and cited today because of its eloquent and visionary prose, which has inspired generations of scientists, engineers, and thinkers to explore the possibilities of technology and its potential impact on society

iv. Write a summary in less a page about

- Where did HCI innovations and philosophy come from?

The term was popularized by Stuart K. Card, Allen Newell, and Thomas P. Moran in their seminal 1983 book, the psychology of human computer interaction, although the authors first used the term in 1980 and the first known use was in 1975.The term connotes that, unlike other tools with only limited uses (such as a hammer, useful for driving nails but cannot much else). Human Computer Interaction (HCI) is an area of research and practice that emerged in the late 1970s and early 1980s. initially as an area in computer science. HCI has expanded rapidly and steadily for three decades, attracting professionals from many discipline. The board project of cognitive science, which incorporated cognitive psychology, artificial intelligence, linguistics, cognitive anthropology, and the philosophy of mind and formed at the end of the 1970's. Now a day the HCI is used in the area of cognitive science with the help of the internet, medical facilities can be provided remotely.

- Who were the major personalities?

In the history of human computer interaction some user figures have been so
prominent that it is important to keep them in mind. Joe and Josephine, a fictional couple described by Henry Dreyfus, in "designing for people" with plenty of simplified anthropometric charts. Dreyfuss introduced what has been called "human Engineering". Another was Ben Shneiderman, who developed the principles of direct manipulation and visualization, and advocated for the use of graphical user interfaces (GUIs).

- What where the important system/components and how they evolved today?
    a) The user.

Refers to an individual or a group of individuals that participate in a common task. HCI studies user's needs, goals, and interaction patterns. It analyzes various parameters such as users' cognitive capabilities, emotions, and experiences to provide them with a seamless experience while interacting with computing system

    b) The interface;

is a crucial HCI system that can enhance the overall user interaction experience. Various interface-related aspects must be considered such as interaction type (touch, click gesture or voice), screen resolution, display size, users can adjust these depending on the user