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CSARCH2 Exhibit Proposal

Throughout the years, user interfaces have been designed so as to grant access to the computational resources that computers bring to the table; and, with these interfaces, people needed a way to effectively navigate through them. At first, people used trackballs, joysticks, light pens, and keyboard controls to navigate through the UI, but the introduction of the “mouse”, which was invented by Douglas Engelbart in 1968 and improved upon by IDEO in 1983, revolutionized pointer devices as it had provided a natural, precise, and intuitive way to navigate graphical user interfaces. Mice saw widespread use over the years, and newer and newer models have been developed and released to the public ever since. Not only that, but other types of pointing devices have also surfaced, such as haptic devices and touchscreen devices. As such, in our exhibit, we plan to showcase these pointing devices and how the different pointing devices of the modern day differ from the older ones.

For the contents of the exhibit itself, we will be discussing, though making sure that it is still digestible to less technical people, several aspects of pointing devices, such as their history and evolution, their latency, precision, and ergonomics, their connection method, and their workings. Latency is the delay of signals being sent from the pointing device to the computer, this aspect has received notable improvements over the years and is important for high-coordination tasks. Precision is how precise the pointer is, but the definition of precision may vary depending on the task; for example, mice have a generally higher precision for pointing at things, but touch screens or light pens have higher precision when it comes to translating movement into the computer, such as when drawing. Ergonomics is how comfortable it is to use for extended periods of time, a trait which has received increasing attention over the recent years, as more and more auxiliary devices, including mice, have been developed to better accommodate the human hand. For the workings of the pointing devices, multiple implementations have been developed, such as the trackball, laser tracking, electromagnetic induction, and many more, and we plan to provide a brief overview of how these work.

Now, the specific pointing devices that we will be featuring will be divided into “Then” components and “Now” components. The “Then” components will include a facsimile of a trackball (Kensington Expert Mouse), an Apple Desktop Mouse II, a Nintendo Wii Remote, and a Nintendo DS (the touch screen and stylus will be the main subject). The “Now” components will feature a wireless vertical mouse (Rapoo EV250 Silent), a wired modern mouse (Logitech G402), a trackpad, and a pen tablet (Deco 01 V2). The specific components, as well as their respective photos, are listed down below:

Component List:

THEN	
Facsimile of Trackball (Kensington Expert Mouse)	1992 – Apple Desktop Mouse II
	
NOW	
Wireless Vertical (Ergonomic) Mouse (Rapoo EV250 Silent)	Wired Modern Mouse (Logitech G402)
	
Trackpad	Pen Tablet (Deco 01 V2)
	

The facsimile trackball will be made primarily of a white billiard ball for its trackball and cardboard for its base. The dimensions of the facsimile will be made in accordance with the Kensington Expert Mouse's own dimensions; however, the center portion of the base will have to adhere to the billiard ball's dimensions. To better emulate the feel of the trackball, we will paint the base white and lining the center of it with wax paper so as to facilitate smoother ball movement.

For the exhibit proper, the booth shall be divided into two sections, the "Then" section and the "Now" section. The "Then" section will contain the video presentation as well as the "Then" components, which are the trackball (facsimile), an Apple Desktop Mouse II, a Wii Remote, and a Nintendo DS. Of the "Then" components, the trackball will not be functional as it is merely a replica of the Kensington Expert Mouse, and the Apple Desktop Mouse II and Wii Remote cannot be used as they require special hardware to connect to. The Nintendo DS, however, is still functional and can be used, so its pointing device, which is its touch screen and stylus, can be showcased in action. As for the "Now" section, the components will be connected to a laptop, which has Microsoft Paint open, so that the exhibit-goers can trial them. These components will consist of a Deco 01 V2, a Logitech G402, a Rapoo EV250 Silent, and the sample laptop's own trackpad. A chair will be placed behind the table for the person manning the booth to sit on. Finally, flyers about our exhibit will be placed in between the two sections and can be distributed, and a poster will be created and hung either below the front edge of the table or behind the exhibit if space allows. A more illustrative representation of the plan for the exhibit can be found below:

