CSARCH S14 GROUP 4

COMPUTER COMPONENTS EXHIBIT DOCUMENTATION

Lapuz, Mari Salvador
Ramos, Daniel III
Roco, Gwen Kathleen
Tabadero, Audrea Arjaemi
Yao, Benson

CSARCH S14 GROUP 4

FROM BEATS TO BYTES: HOW MUSIC IS ENCODED THROUGHOUT THE YEARS

Lapuz, Mari Salvador
Ramos, Daniel III
Roco, Gwen Kathleen
Tabadero, Audrea Arjaemi
Yao, Benson

BEFORE BOOTH SETUP

IDEATION

[CSARCH2] Exhibit Information Sheet

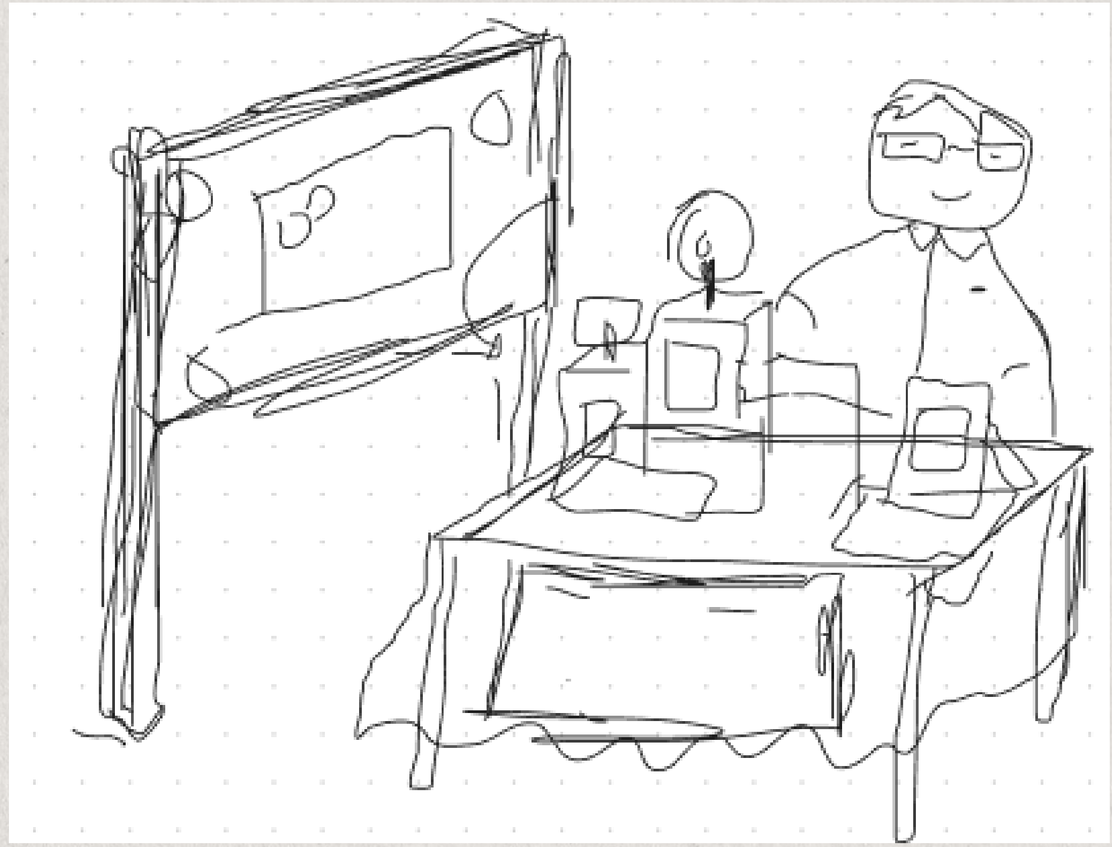
Todo

- [ ] Buy Audrea Arjaemi Tabadero Mari Salvador Lapuz (high priority)
  - [x] ~~Cassette tape player~~
  - [x] ~~MP3 Player~~
  - [ ] Cassette tape (music-related)
  - [x] ~~CDs (music-related)~~
  - [ ] 1 whole illustration board
- [ ] Vinyl player game (mid priority) Daniel III Ramos Gwen Kathleen Roco
- [ ] Video Script (high priority) Daniel III Ramos Gwen Kathleen Roco
- [ ] Video Recording
- [ ] Digital Brochure
- [ ] Foil paper (
- [ ] Main Poster (Canva design)

From Beats to cBytes: How Music is Encoded throughout the Years

- Much like the computing innovation, how we listen to music shifts from analog to digital
- Encoding of sounds
  - Gramophones and phonograph (Analog)

FACT SHEET



INITIAL BOOTH DESIGN

COMPONENTS

CASSETTE TAPES & CDs

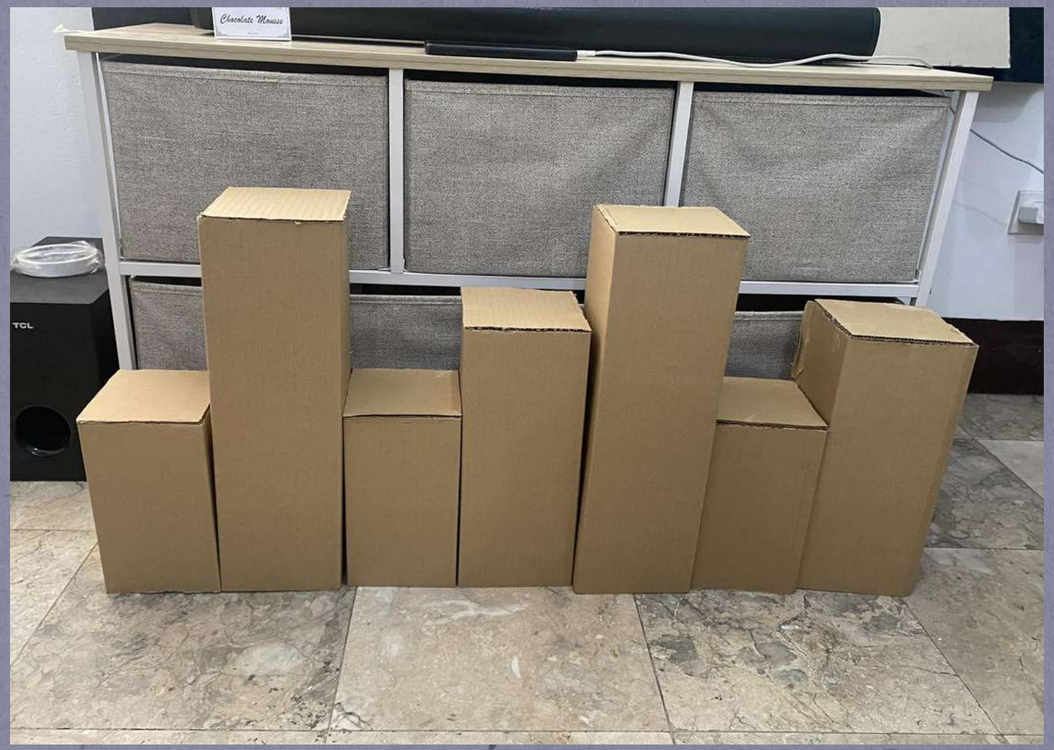
IPOD

COMPONENTS

VINYL PLAYER & DISC

RADIO

PREPARING THE COMPONENTS' PLATFORMS



BEFORE

AFTER

PREPARING THE BUZZ WIRE GAME

BEFORE

AFTER

TARPAULIN DESIGN

PRINTED AND DISPLAYED IN FRONT OF THE TABLE

BEATS TO BYTES

HOW MUSIC IS ENCODED THROUGHOUT THE YEARS

ANALOG ERA

VINYL & RECORD PLAYERS

have **grooves** for sound control—wider for volume, deeper for bass. A stylus followed the grooves, creating vibrations that turned into electric signals, and sent through an amplifier for music.

TAPE PLAYERS

and **magnetic tapes** use magnetism to encode and remember music. A microphone converts sounds into electromagnetic waves, influencing the tape's magnetic field. When decoded, the magnetized tape produces electrical currents, which are then amplified into sounds.

RADIO RECEIVERS

use **radio waves** to record and transmit sound, encoded through amplitude or frequency modulation

DIGITAL ERA

COMPACT DISKS

store digital audio through **sampling** and **conversion**. Sound is captured as binary code, translated into bumps on the CD. During playback, a laser reads these bumps, interpreting them into a binary series that transforms back into analog signals, producing the audible sound.

MP3 PLAYERS

utilizes analog-to-digital conversion like CDs but with compressed files for efficient storage. This **compression**, employing auditory masking, significantly reduces file sizes. During playback, the compressed bits are reversed to produce 'near-CD-quality' sound.

INTERNET ERA

P2P SOFTWARE

organizes files in a **distributed system**, with independent nodes storing content-based files. Sharing involves placing files in accessible memory locations. P2P Distribution uses search algorithms and FTP for secure downloads, optimizing efficiency with 'Threshold-Based Sharing.'

STREAMING SERVICES

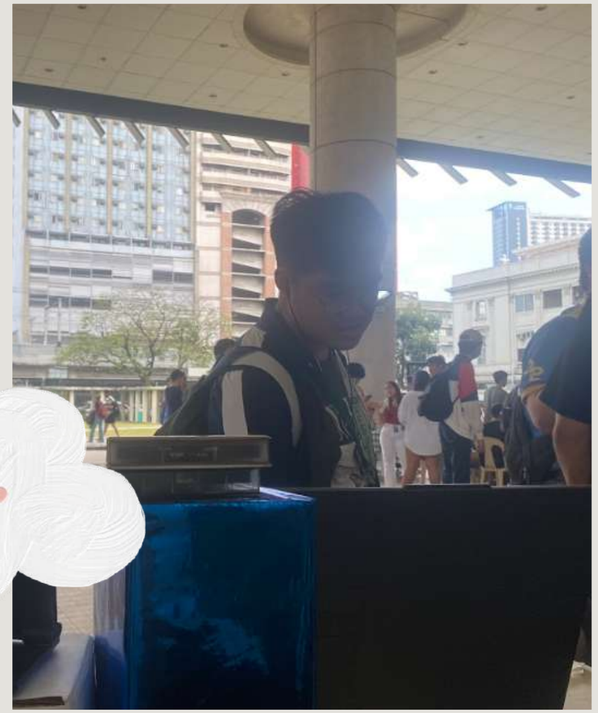
like YouTube optimize content delivery through **cloud-based** transcoding, adjusting formats and bitrates for efficiency. Content Delivery Networks (CDN) store content closer to users, ensuring faster and more reliable streaming.

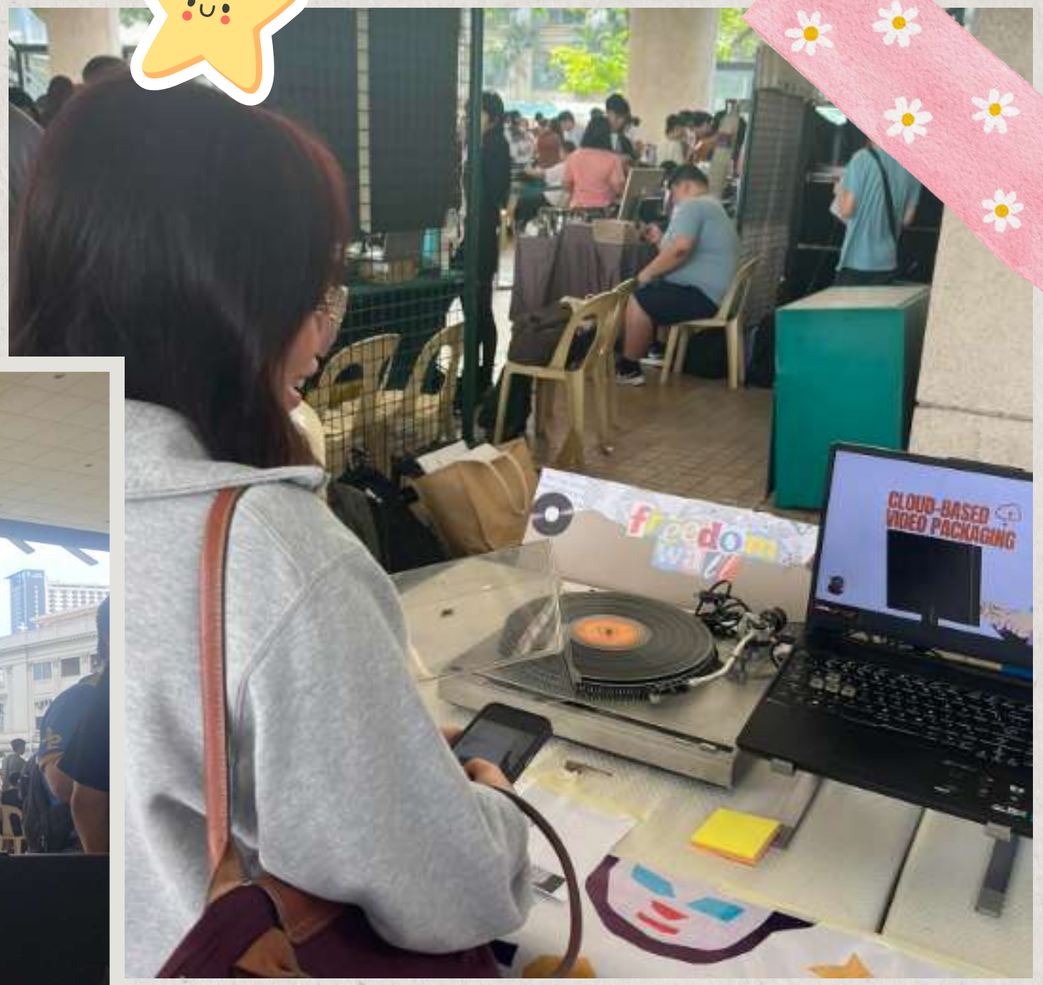
INFOGRAPHIC

DURING THE EXHIBIT

(after booth setup)

FINAL BOOTH DESIGN





BOOTH VISITORS

BOOTH VISITORS

MEMBERS MANNING THE BOOTH

DAY 1 (MARCH 14, 2024)

9:00 AM - 10:00 AM	Ramos
10:00 AM - 11:00 AM	Ramos, Yao
11:00 AM - 12:00 PM	Lapuz, Yao
12:00 PM - 1:00 PM	Tabadero, Yao
1:00 PM - 2:00 PM	Ramos, Tabadero
2:00 PM - 3:00 PM	Lapuz, Ramos, Tabadero, Yao
3:00 PM - 4:00 PM	Lapuz, Ramos, Tabadero, Yao
4:00 PM – 5:00 PM	Lapuz, Ramos, Roco

DAY 2 (MARCH 15, 2024)

9:00 AM - 10:00 AM	Lapuz
10:00 AM - 11:00 AM	Lapuz
11:00 AM - 12:00 PM	Lapuz
12:00 PM - 1:00 PM	Lapuz, Yao
1:00 PM - 2:00 PM	Lapuz, Yao
2:00 PM - 3:00 PM	Lapuz, Yao
3:00 PM - 4:00 PM	Lapuz, Yao