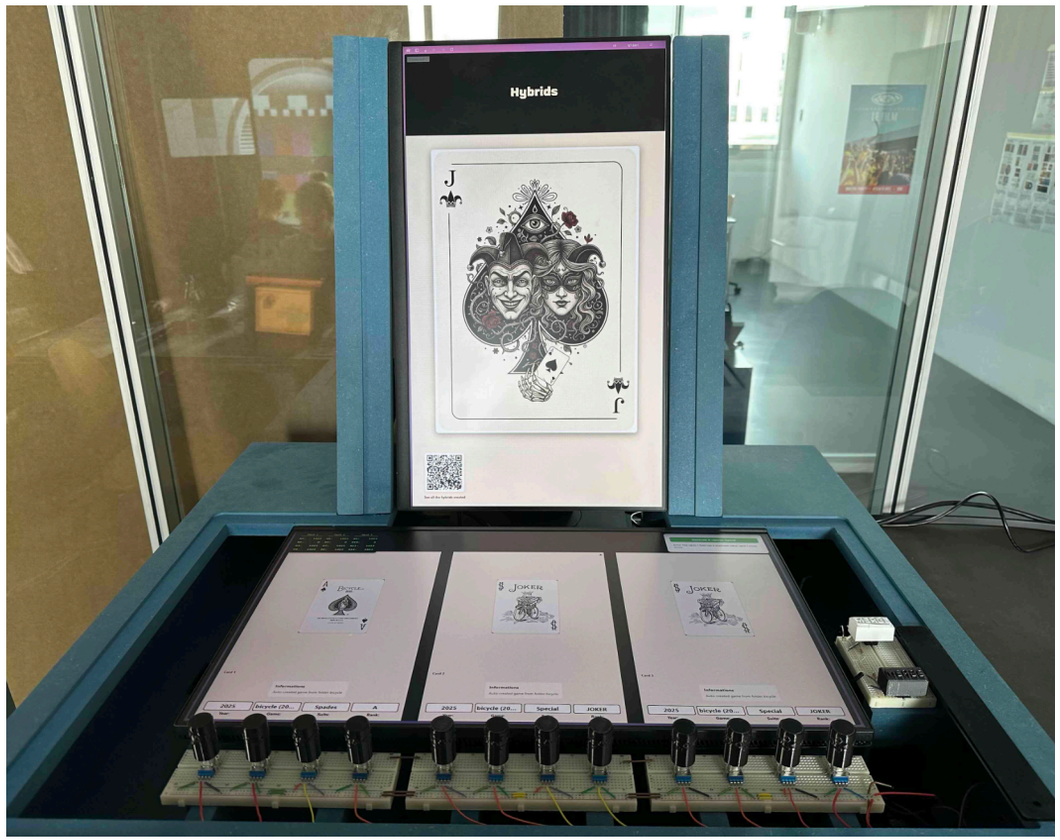
Hybrids

Hybrids

Our project intends to immerse visitors in the evolution of playing cards by offering a unique, interactive experience centered on card hybridization.

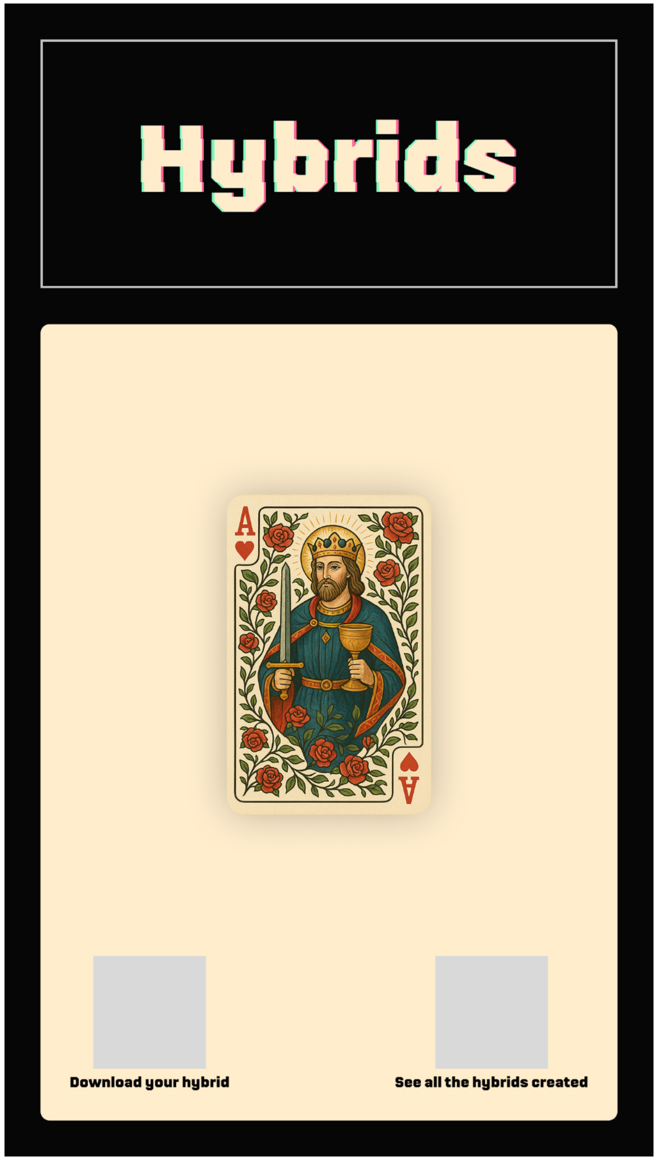
Visitors will journey through centuries of history and diverse card decks. They will have the opportunity to create a digital hybrid card, based on their selection of three distinct cards.

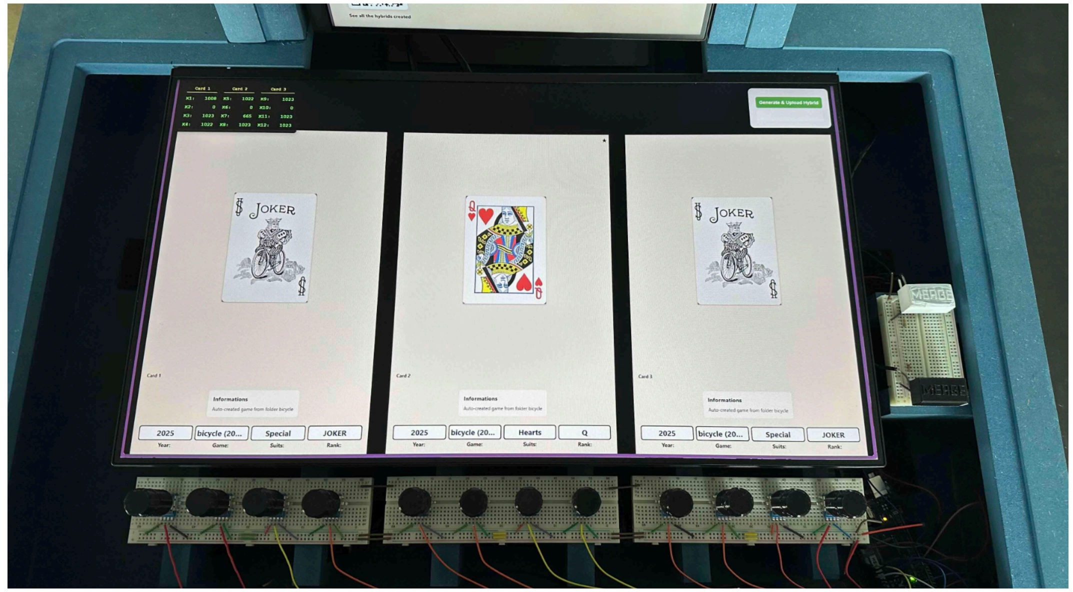
Upon completing their creation, each visitor will receive a souvenir ticket containing all the necessary information to easily retrieve their unique hybrid card online, allowing them to review the specific historical details and context of the three individual cards they selected.

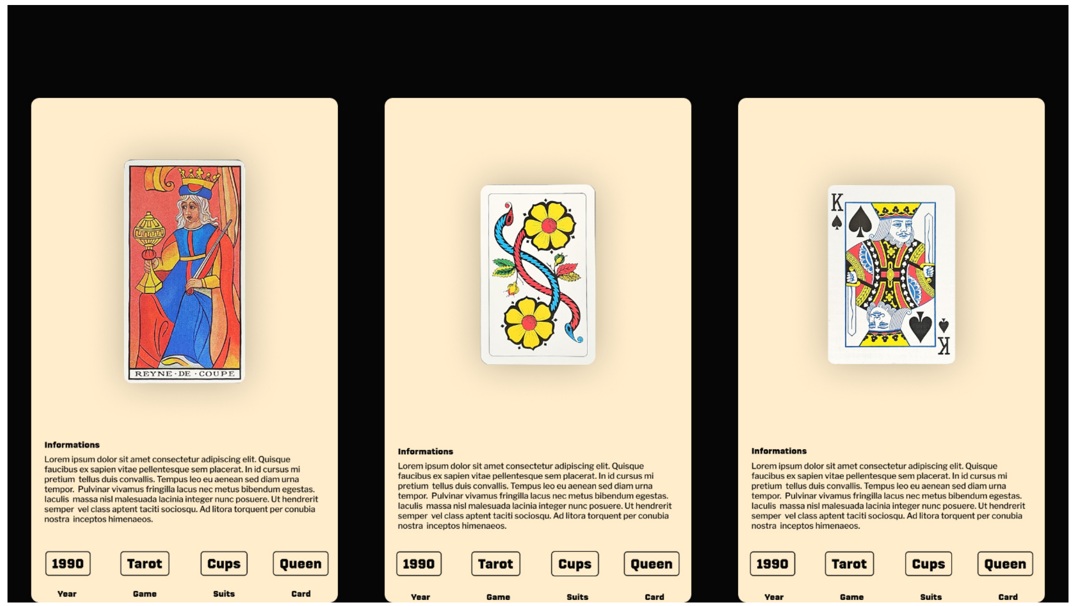

Hybrids
Joker
Joker


Hybrids
1990
Tarot
Cups
Queen

The Interface - Key visuals

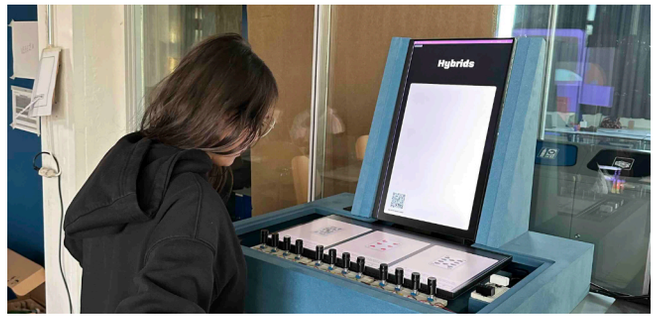




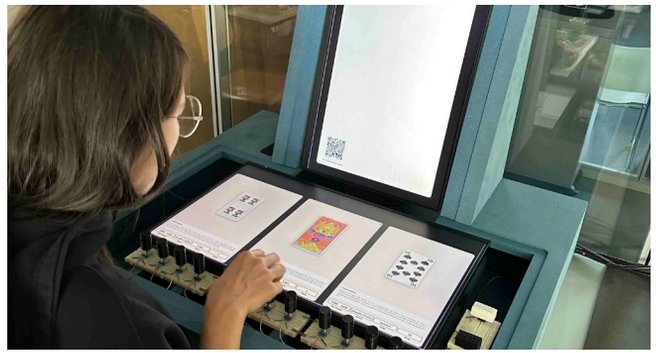


User Journey

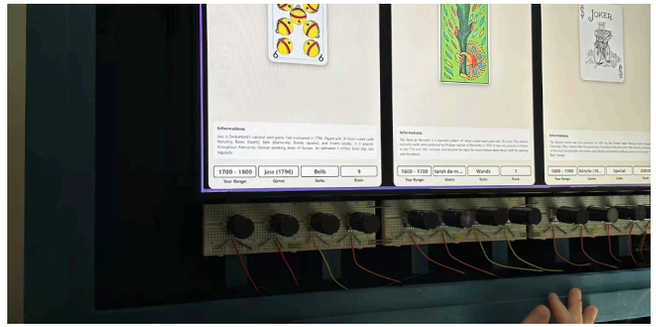
1. Discover the installation.



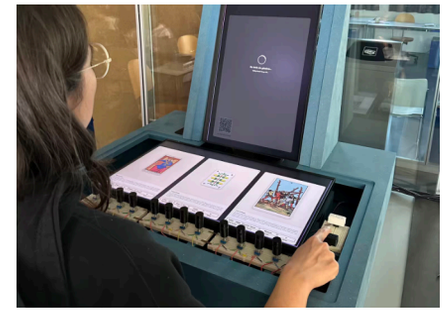
2. Select three cards using knobs (guided by year, game, suit, and card type).



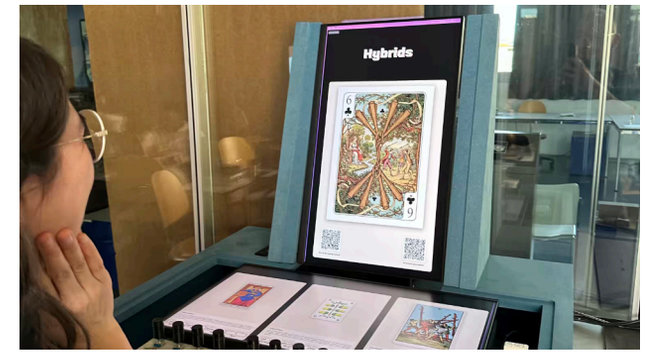
3. Learn about the chosen cards via contextual info on screen (origin, history, meaning).



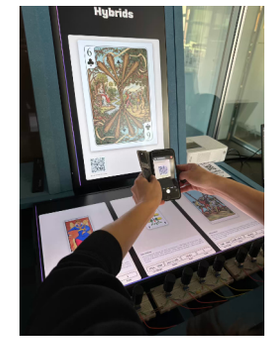
4. Generate the hybrid card with the AI engine.

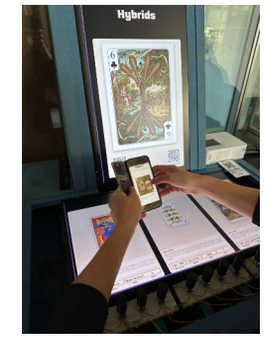


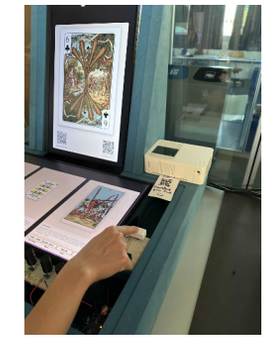
5. Observe the result — a new, playable, hybrid card.



6. Optionally save or print the generated card (QR code or printing machine)

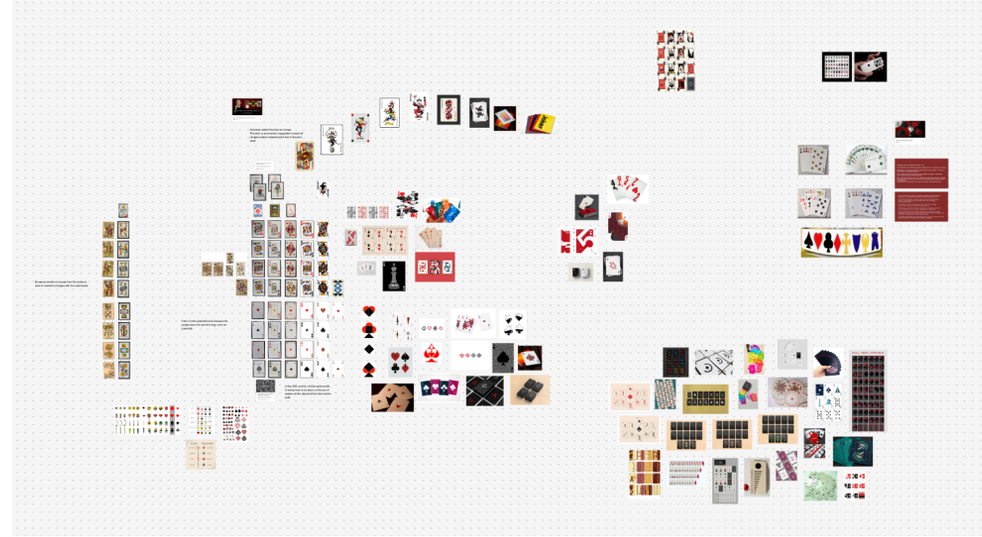






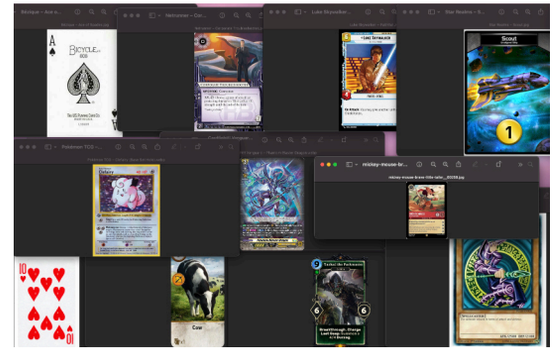
Field observations

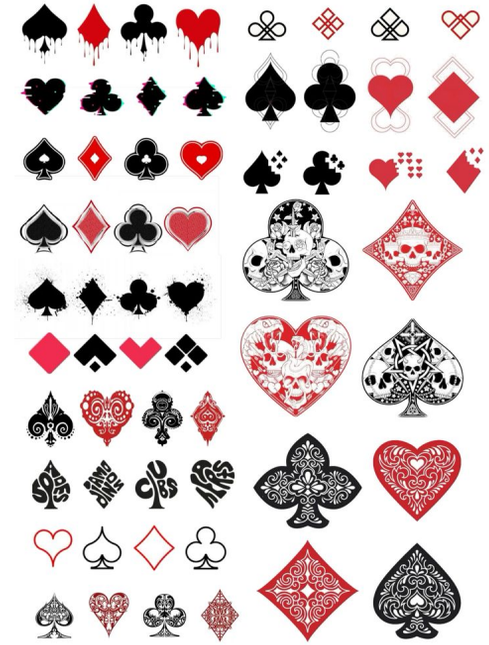
Our research focused on the evolution of playing card design and the existence of customization applications. We observed that historically, card designs have evolved and generally simplified over time. However, contemporary trends indicate a shift where modern designs often leverage minimalist foundations to introduce more sophisticated and detailed customizations. This suggests a return to complexity, but informed by the clarity of modern minimal aesthetics.



Dueling Card Games Timeline

Year	Game	Type	Key Mechanic / Note
1426	Karnöffel	Historical Trick-taking	Earliest named European card game; proto-trump system.
1500s	Piquet	Historical Trick-taking	Two-player duel; melding and trick play.
1800s	Écarté	Historical Trick-taking	Elegant French 2-player duel; bluff via discards.
1800s	Bézique / Pinochle	Meld/Trick Games	Two-hand duels, popular in Europe/US.
1900s	Bridge (Contract)	Trick-taking	Head-to-head competitive variant of Whist.
Folk	War (Battle)	Casual Folk Game	Higher card wins; simplest duel mechanic.
1993	Magic: The Gathering	TCG	First CCG; resource curve, spell/creature duels.
1996	Netrunner	TCG	Asymmetric corp vs hacker duel.
1996/98	Pokémon TCG	TCG	Trainer vs trainer with collectible creatures.
1999/2002	Yu-Gi-Oh! TCG	TCG	Summoning/combos; anime-fueled phenomenon.
2002	Duel Masters	TCG	Fast-paced Japanese duel game.
2006	Urban Rivals	Digital CCG	Online duels with evolving characters.
2008	Weiß Schwarz	TCG	Anime crossover duels with IP tie-ins.
2010	Ascension	Deckbuilder	Center row drafting; competitive scoring duels.
2011	Cardfight!! Vanguard	TCG	Ride/Guard mechanics; anime tie-ins.
2014	Hearthstone	Digital CCG	Streamlined MTG; huge digital success.
2014	Star Realms	Deckbuilder	Streamlined 1v1 combat deck-building.
2016	Shadowverse	Digital CCG	Anime-styled with 'evolve' mechanic.
2017	Elder Scrolls: Legends	Digital CCG	Lane-based duels; inspired by TES universe.
2018	KeyForge	Unique Deck TCG	No deckbuilding; unique generated decks.





Year	Game	Type	Key Mechanic / Note
2018	Gwent: The Witcher Card Game	Digital CCG	Row/round management duels.
2018	Artifact	Digital CCG	Valve's tri-lane dueling game (Dota lore).
2018	Shards of Infinity	Deckbuilder	Mastery system + dueling health race.
2019	Flesh and Blood	TCG	Hero duels; tuned for competitive play.
2020	Legends of Runeterra	Digital CCG	Generous economy; LoL universe.
2022	Marvel Snap	Digital CCG	Fast 6-turn, 3-lane micro duels.
2023	Disney Lorcana	TCG	Disney character dueling, family-friendly.
2024	Star Wars: Unlimited	TCG	Leader/base combat; organized competitive play.

User Tests

1. Clarity of Interaction Is Essential

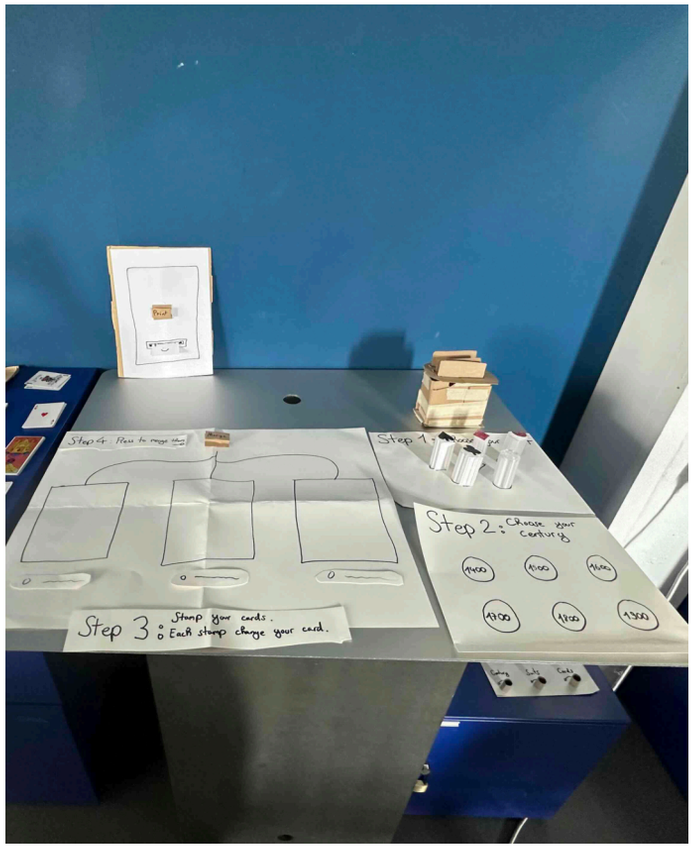
We observed that users should understand what to do without reading long instructions. The onboarding sequence and interface must be self-explanatory, guided by visual cues, clear affordances, and intuitive feedback rather than text-heavy explanations. We learned to communicate the process through design, not through words.

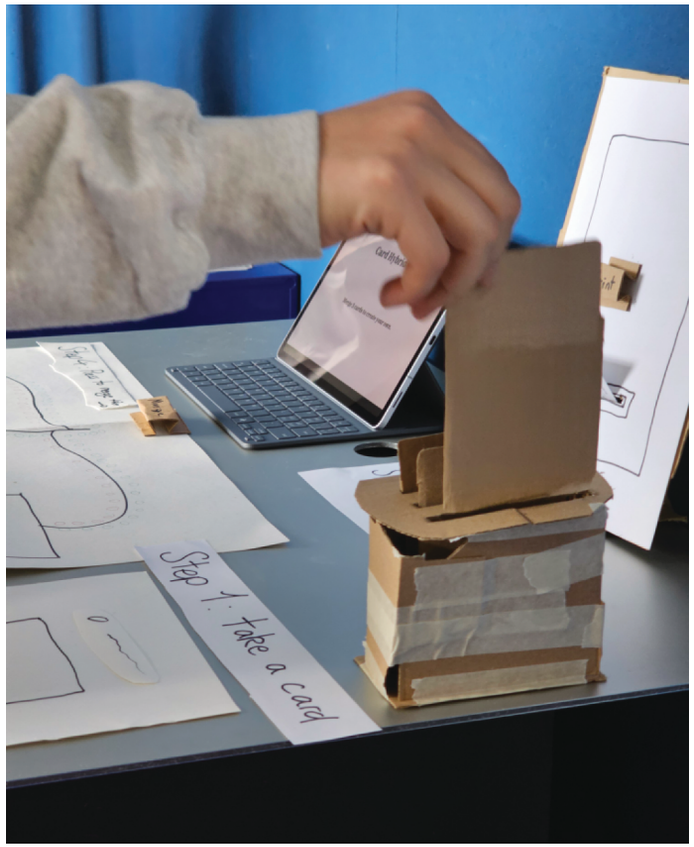
2. Gestures Felt Unnatural in This Context

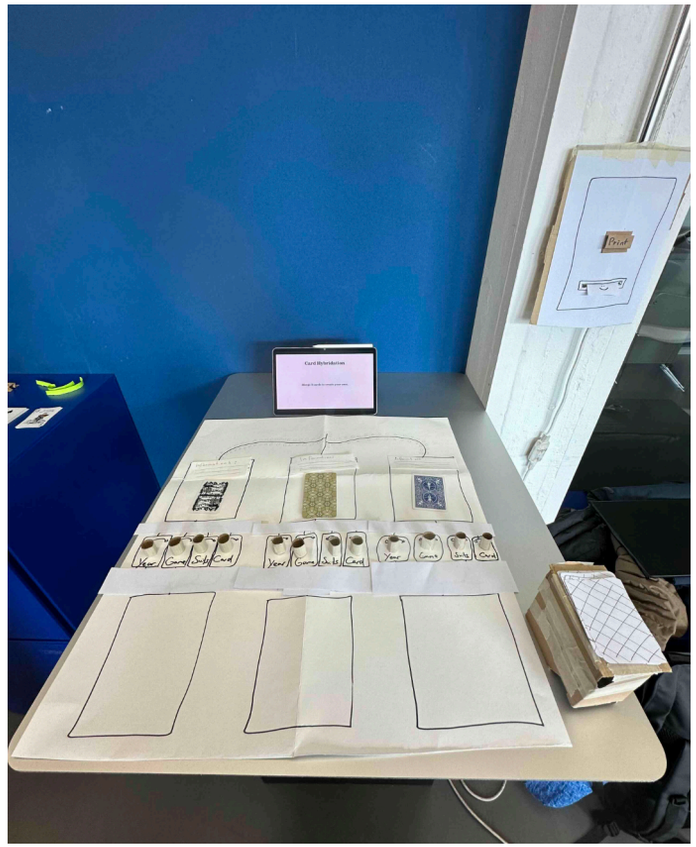
While gesture recognition initially seemed attractive, tests showed that it broke the tactile, mechanical quality of the experience. Turning knobs and pressing buttons felt more coherent with the theme of card hybridization. We learned to preserve the physical and analog essence of our interaction.

3. Simplifying the Setup Improves Flow

Early prototypes involved multiple screens and devices, which confused users and fragmented attention. Merging all actions into a single, central machine created a smoother, more immersive experience. We learned that one unified interface focuses the visitor's attention and narrative.







4. Physical Layout Must Have Meaning

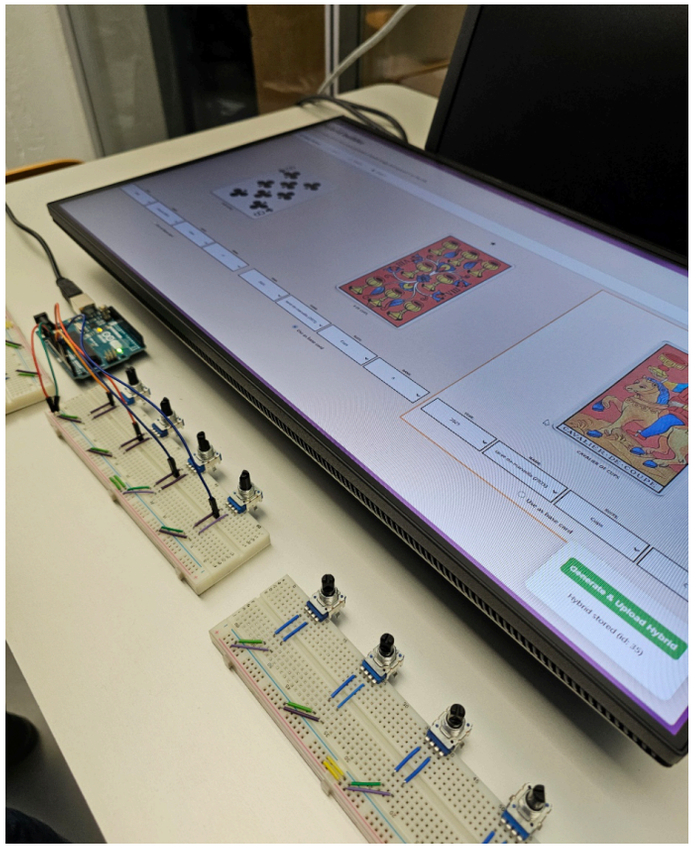
The arrangement of knobs and buttons must be logical, ergonomic, and symbolically coherent with the creation process (e.g., time on the left, card type on the right). Users responded better when the physical layout visually reflected the conceptual steps. We learned that physical organization shapes cognitive understanding.

5. Sensory Feedback Reinforces Engagement

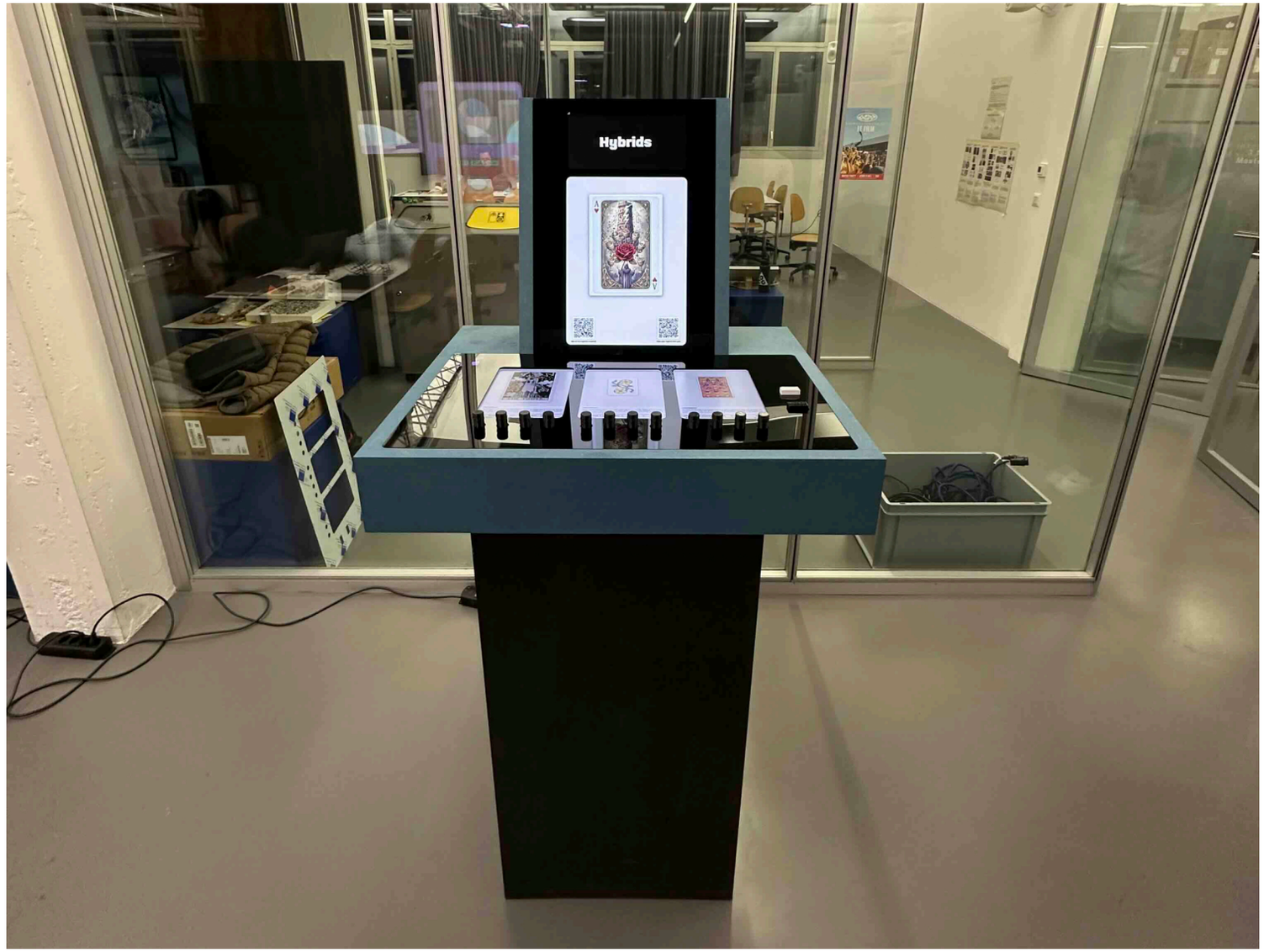
Adding light and sound cues made interactions more satisfying and legible. For example, auditory confirmation when selecting or creating a card, or subtle light pulses during AI generation, helped users feel in control and rewarded We learned that multisensory feedback enhances immersion and clarity.

6. Craft Quality Impacts Perceived Value

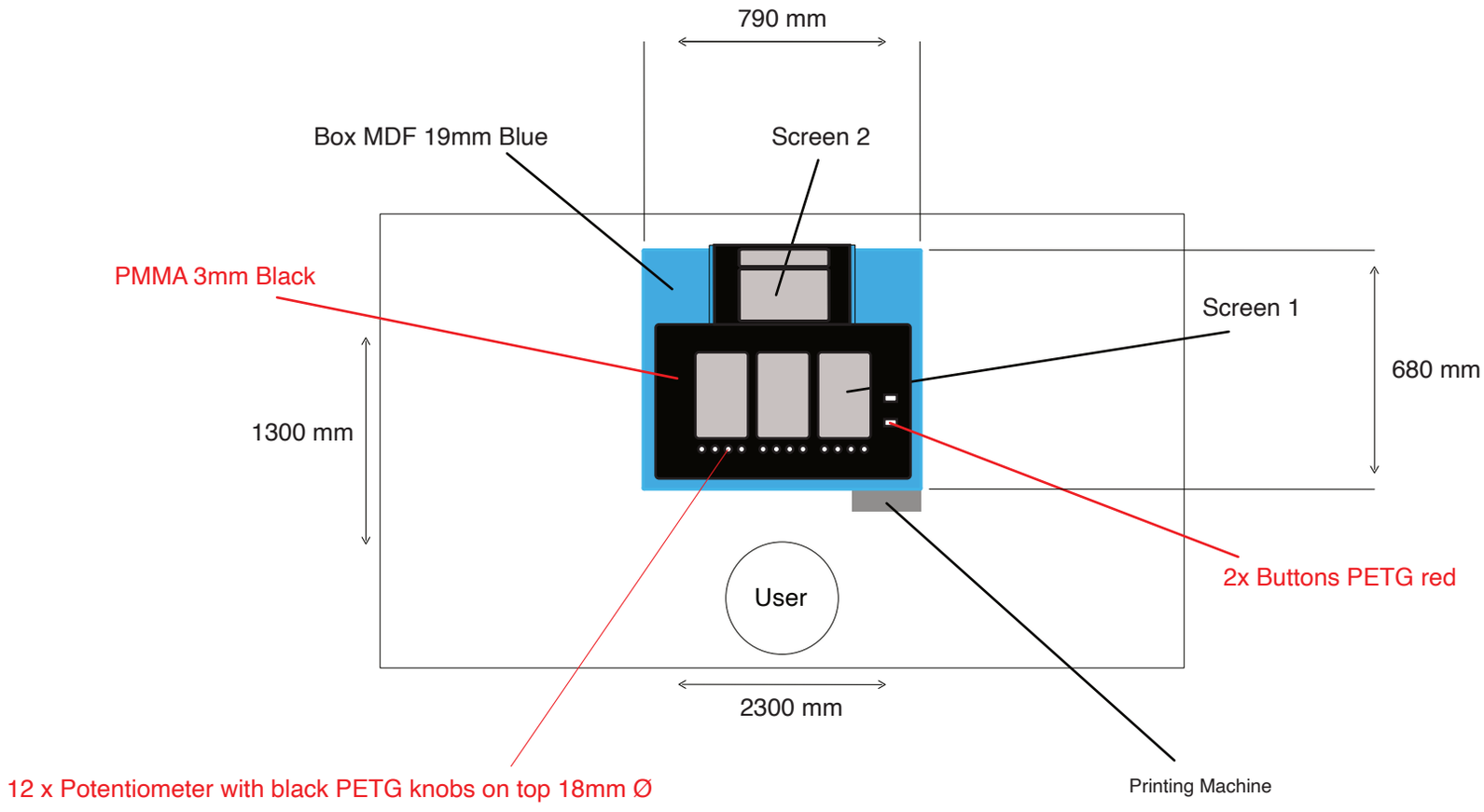
Feedback on the prototype emphasized the importance of finish and materiality. Quick mock-ups with visible screws or rough edges distracted from the conceptual depth of the project. We learned that the physical craftsmanship of the machine directly affects its credibility and emotional impact.



Scenography



Spatial diagram



Technical diagram

1. Computer (Main System) :

- Runs the installation interface and AI generation.
- Central hub managing input (Arduino) and output (screens + printer).

2. Arduino Mega :

- Connected to computer via USB-B 2.0.
- Reads analog and digital input:
- 12 Potentiometers (knobs) → send analog values.
- 2 Buttons → digital input signals (e.g., “Generate Hybrid,” “Reset”).

3. Input Controls :

- 12x Potentiometers: control parameters (era, game, suit, card type).
- 2x Buttons: trigger key actions (generate hybrid / confirm).

4. Printing Machine :

- Connected to computer via USB.
- Prints souvenir QR cards.
- Separate power cable to electricity.

5. Screens (x2) :

- Connected to computer via HDMI 1 + HDMI 2.
- Display user interface and visual output (e.g., card database + generated hybrid).
- Each has independent power cable to electricity.

6. Power Supply :

- Computer → Electricity (main power).
- Printer → Electricity.
- Screens (x2) → Electricity.

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