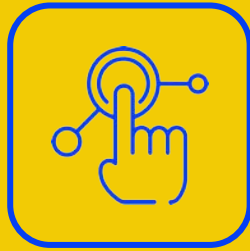# LET'S KNEAD

Lea Helferich, Jan Hommes | WS 2021/22
Interaction Engineering | Prof. Dr. Kipp
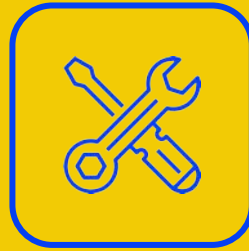
Motivation

Related Work

Interaction Techniques

Technical Realization

User Tests

Conclusion

Motivation - Description
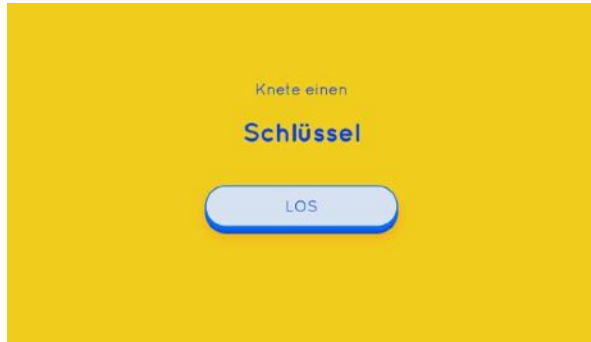

one Player

OR

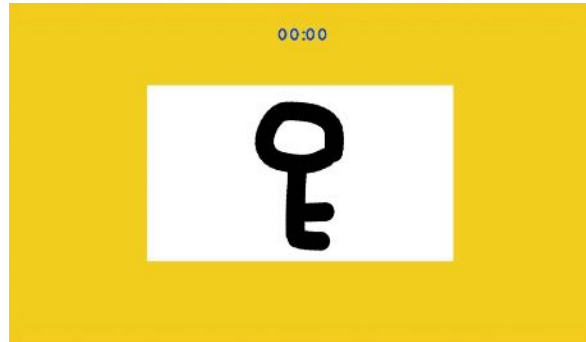two Player

Motivation - Description

computer suggests object   **user must knead object**   **computer recognizes object**

Motivation - Relevance

Simple game that creates haptic play experience

Improvement of the gaming experience by using haptic clay

Motivation - Research Questions

Does the haptic of clay improves the gaming experience?

Is the two or one player game more enjoyable?

Related Work

Google Quick Draw

- **Game uses machine learning**
- **User draws something**
- **Neuronal Network guess shapes**

- **Our game: Clay as an additional fun factor**

Related Work

Play-Doh Touch App

- **Shape and scan objects with clay**
- **Objects become game characters**

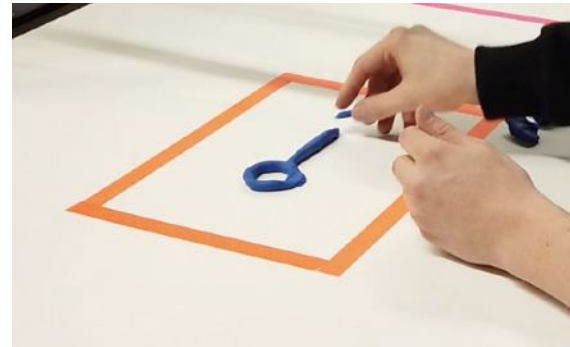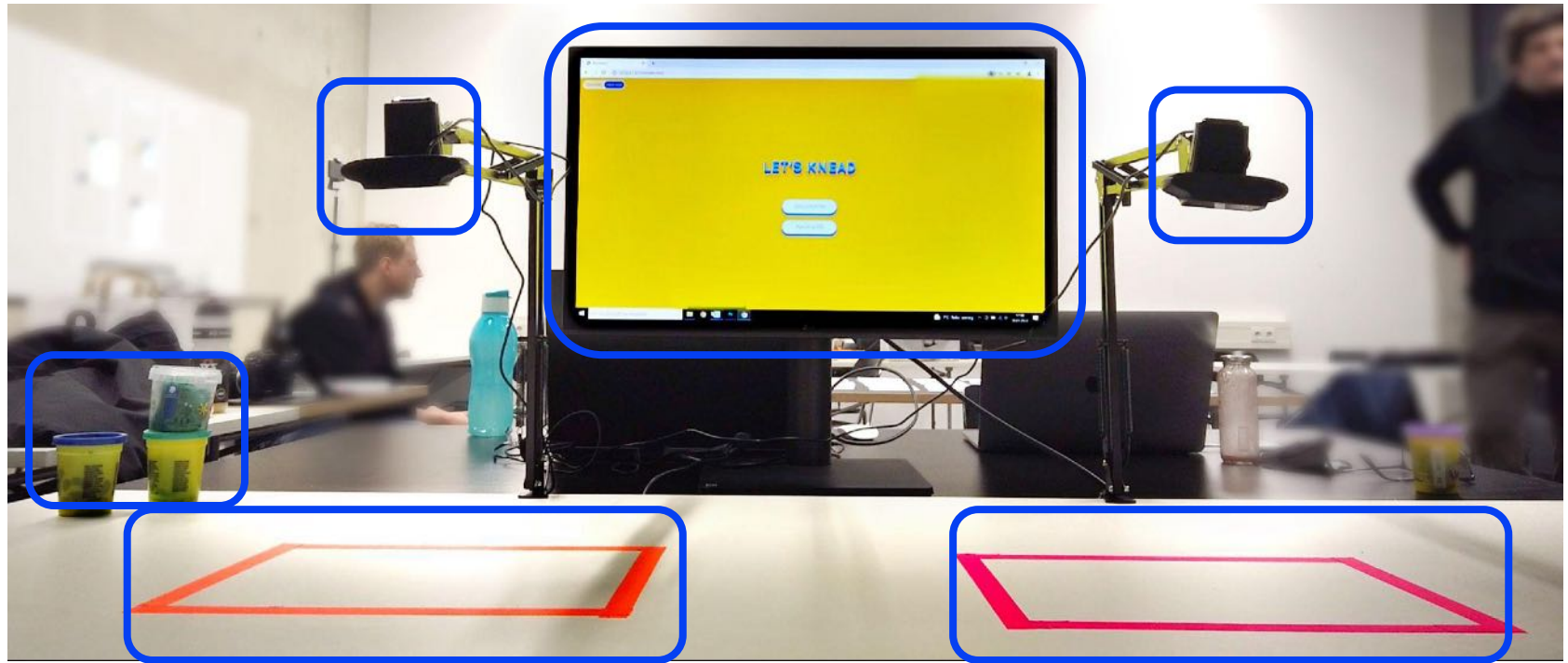- **As in our work, clay is used in addition to the App**

Interaction Techniques

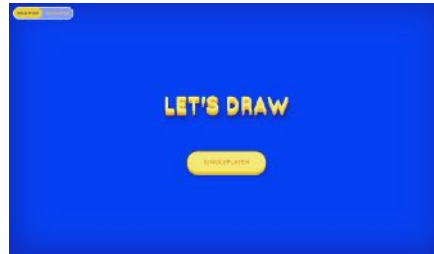**mouse - navigate through game**
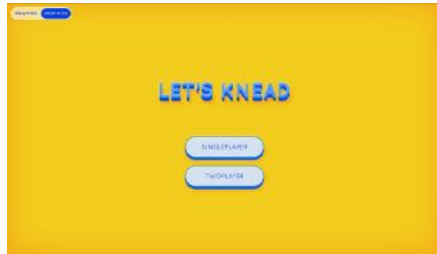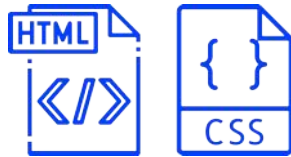

clay - form specific objects

Technical Realization - Setup

Technical Realization - Programs

Design
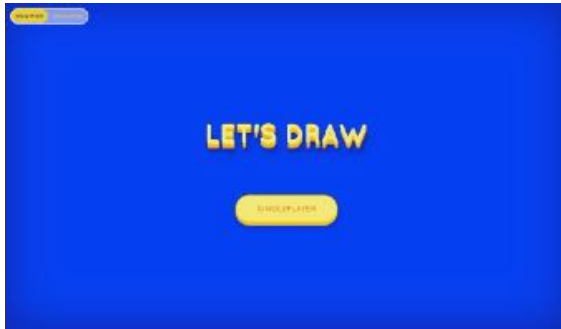
Technic behind

User Tests - Procedure

**Let's Draw
(singleplayer)**

**Let's Knead
(singleplayer)**

**Let's Knead
(twoplayer)**

LET'S DRAW

SINGLEPLAYER

LET'S KNEAD

SINGLEPLAYER

TWOPLAYER

LET'S KNEAD

SINGLEPLAYER
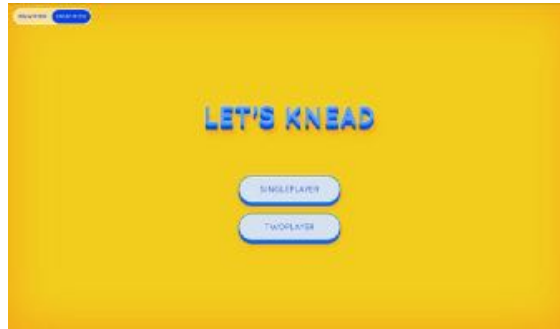
TWOPLAYER

VS
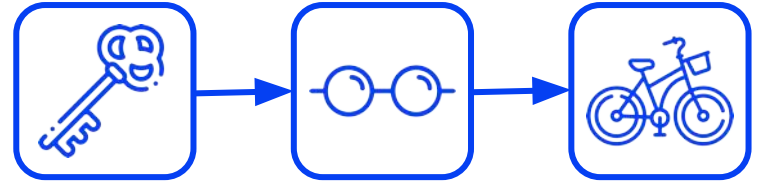
VS

User Tests - Hypothesis

Users prefer the "Let's Knead" game instead the "Let's Draw" game because clay improves the gaming experience.
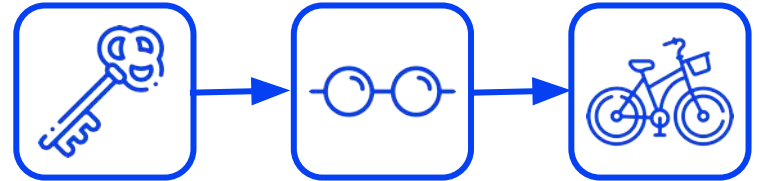
The twoplayer "Let's Knead" game is more enjoyable than oneplayer "Let's Knead" game.

User Tests - Tasks

Play 3 Rounds of "Let's Draw" game (singleplayer)
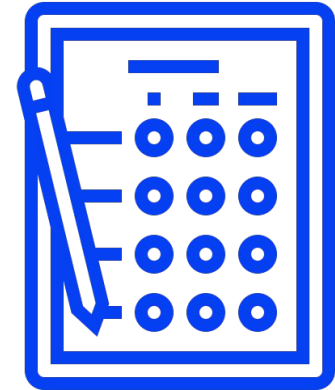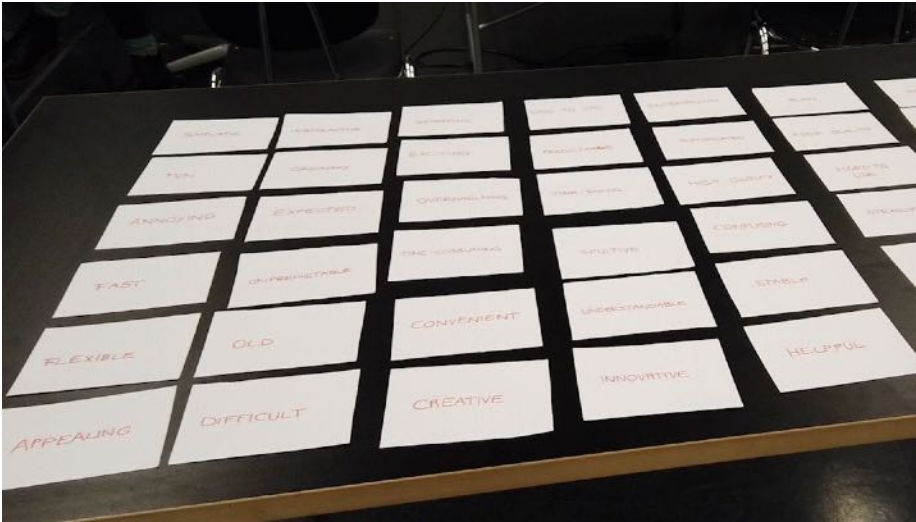
Play 3 Rounds of "Let's Knead" game (singleplayer)

Play 3 Rounds of "Let's Knead" game (twoplayer)

And now…

…Let's have a look at the Prototype!

User Tests - Reaction Cards and Survey
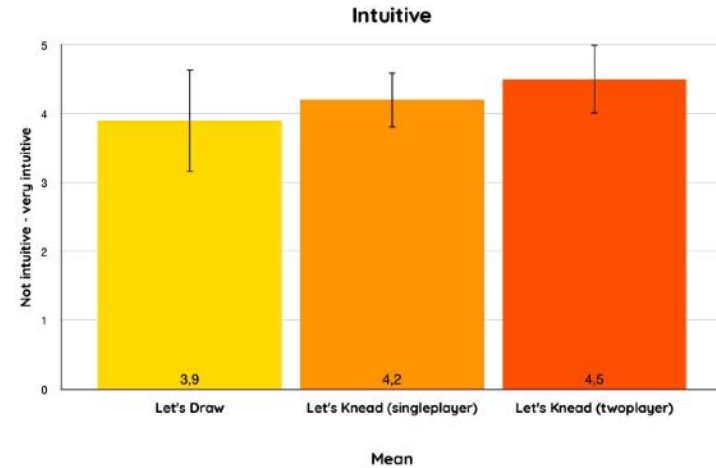

+

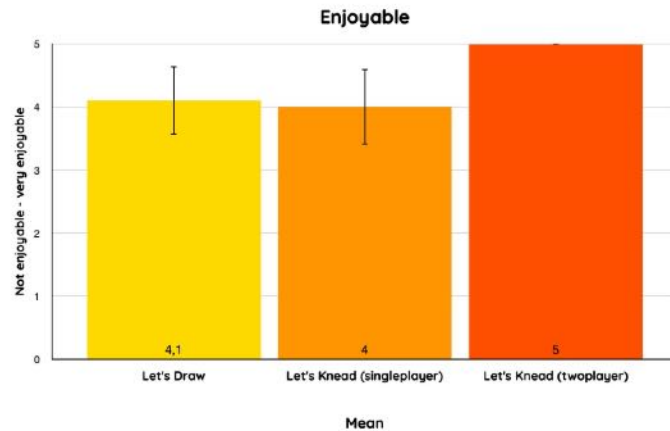# User Tests - Subjects

10 Subjects

6 Male

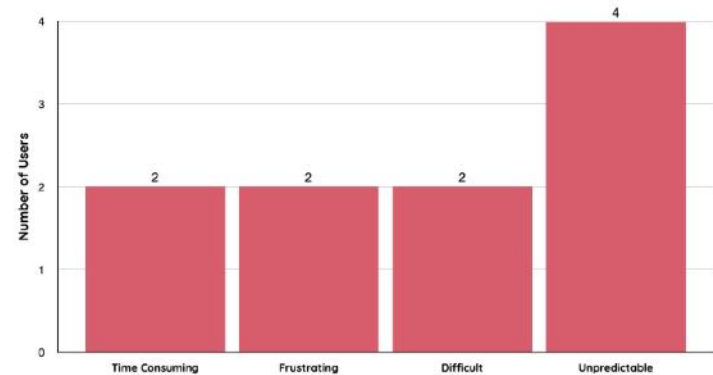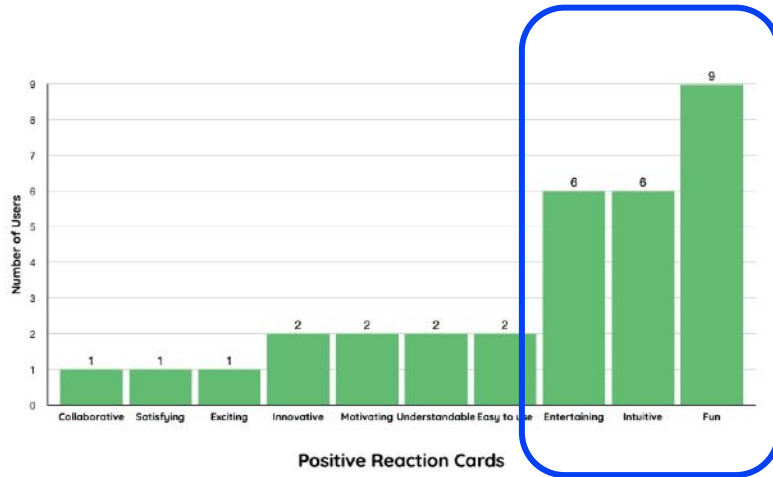**4 Female**

Age 23-29

User Tests - Outcome Survey

Survey enjoyable and intuitive
singleplayer "Let's Draw" vs. **singleplayer "Let's Knead"** vs. **twoplayer "Let's Knead"**

User Tests - Outcome

Reaction Cards
Negative sides vs. **Positive sides**

User Tests - Improvements

Time Consuming

Frustrating → **Reduce percentages so that the objects are recognized more quickly**

Difficult

Unpredictable → **Clear feedback from the neuronal network what it is currently advising**

Conclusion

Users prefer the "Let's Knead" game instead the "Let's Draw" game because clay improves the gaming experience.

The twoplayer "Let's Knead" game is more enjoyable than one player "Let's Knead" game.

Conclusion

Does the haptic of clay improves the gaming experience?

Is the two or one player game more enjoyable?

Conclusion - Future Work

Increase Long-term motivation (Highscore + more shapes)

Adjust the probability based on skill

To train the NN during kneading