LAURIER
Inspiring Lives.

Supporting Recovery from Opioid Addiction through Autobiographical Game Design: Preliminary Findings

Sandra Danilovic, PhD
Assistant Professor, Game Design & Development

Kenny Chee, PhD Student, Community Psychology

Wilfrid Laurier University

Research Details

Funding:
Social Sciences and Humanities Research Council—Insight Development Grant
Wilfrid Laurier University Equipment Grant

Community Partners:
Grand River Community Health Centre (Brantford)
CMHA Hamilton and Keeping Six Collective (Hamilton)

Research Team:
12 total: 3 faculty, 5 graduate students, and 3 undergraduate students

Disciplines:

- Game Design & Development
- Social Work
- Social Justice and Community Engagement
- Youth and Children's Studies
- Community Psychology
- Music Therapy
- Inclusive Design

Game Jams for Research

- Game jams invite people to make a game from scratch in 1-3 days
- Game jams are festive and fun
- Game jams are playful spaces

Creating Inclusive Game Jams

- Creating a welcoming, accessible, and anti-oppressive space for game jammers

Study background

The opioid epidemic is a persistent public health problem across Canada. Opioid-related deaths have almost doubled during the COVID-19 pandemic which has exacerbated this crisis by creating access barriers to social services for people using drugs (Gomes et al. 2021, 3).

Brantford, Ontario has the second highest rate of opioid poisoning in Canada (Canadian Institute for Health Information 2018, 22).

Research Questions

RQ1: *How do participants experience autobiographical game design during a game jam?*

RQ2: *How do participants experience the learning process of game design and its diverse tools?*

RQ3: *How do participants make sense of their lived experiences with opioid addiction through game design—ideation, narrative and character design, interaction design, and coding?*

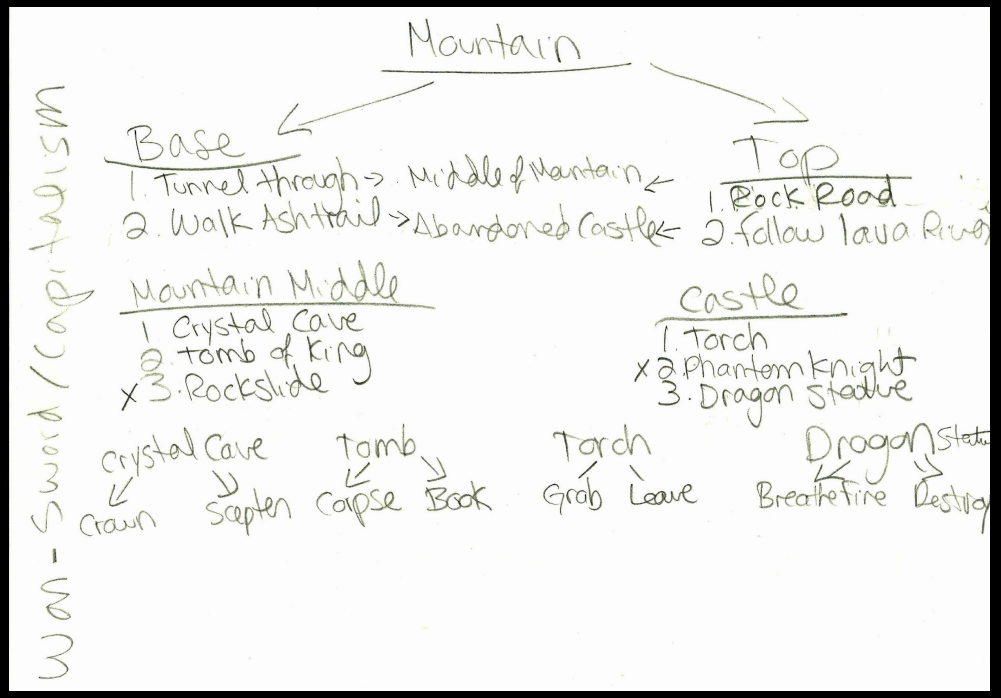


Image: Jammer ideation sketch

Population: Adults living with or recovering from opioid addiction, ages 18 +

Object of study: expressing life stories through digital game design

Study objective: to examine the potential of digital games as sense-making tools and game jams as creative spaces to support recovery

Research Design

Game Jam methodology:
participatory-action approach and data generation; game jamming using Twine, Scratch, Bitsy and Makey Makey software

Context: Three two-day game jams; Two in Brantford & One in Hamilton

Qualitative research methods:
semi-structured interviews, collection of processual artifacts such as sketches, doodles, multimodal journaling (“doodle, draw, sketch, or write!”)

Research Design

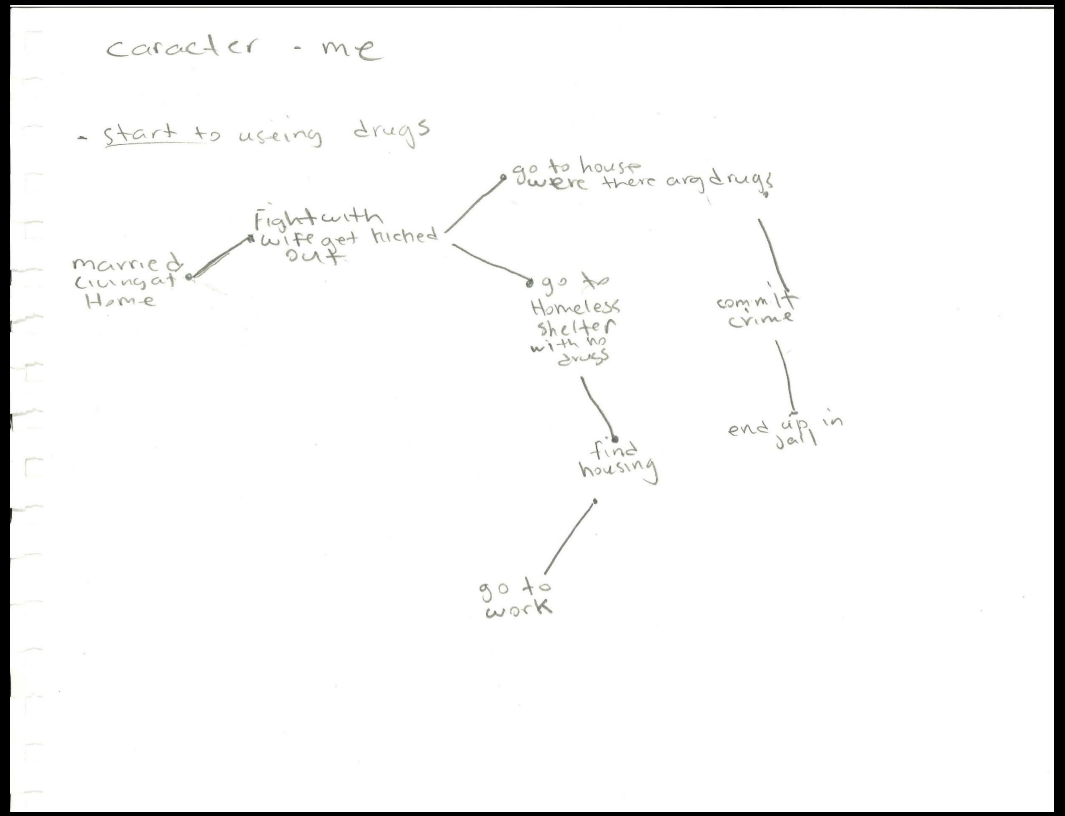
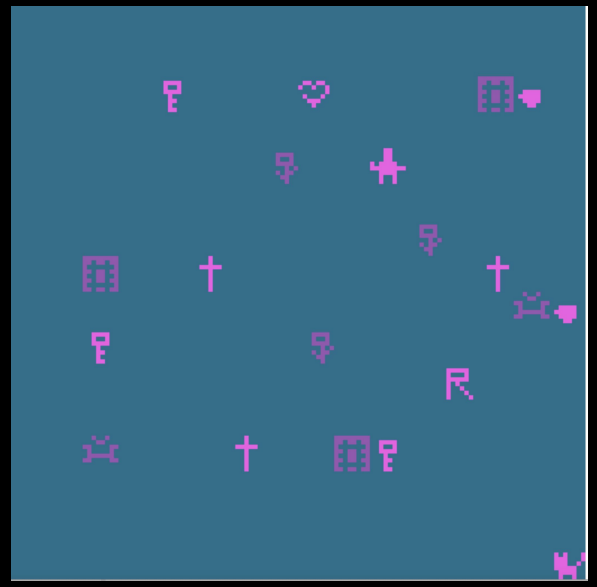
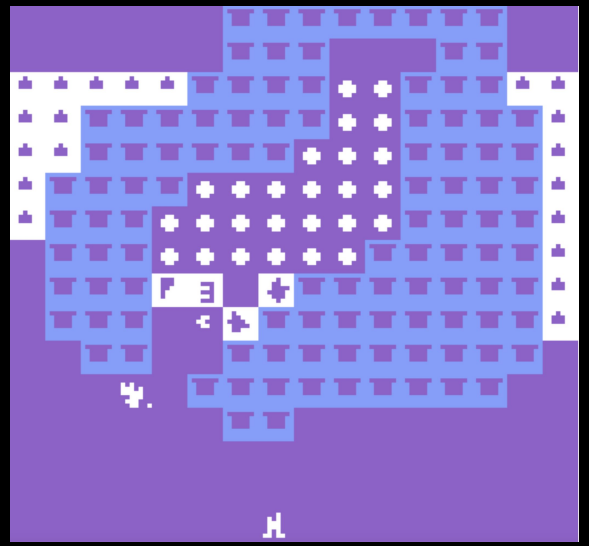


Image: Jammer ideation sketch





Data Generation and Collection during Game Jams

Demographic Data

21 game jammers across three game jams

Majority of the participants between 35-39 of age *(N* = 6*)*, followed by 30-34 of age (*N* = *4*).

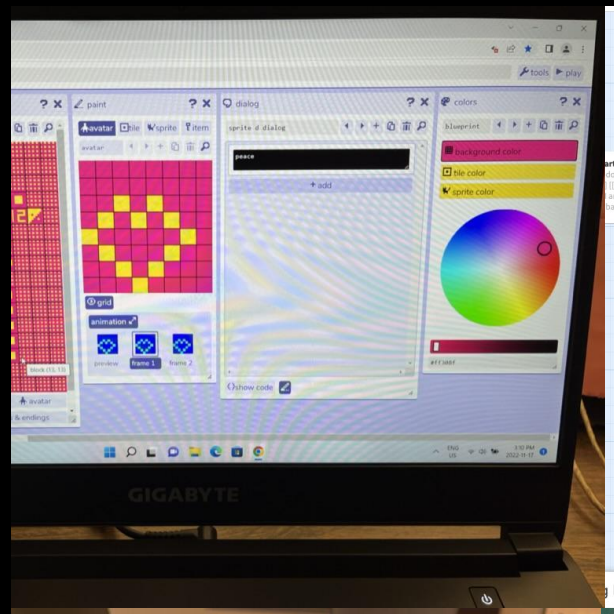
Ethnicity: 15 identified as White, 4 Indigenous (3 First Nations), and 1 Black

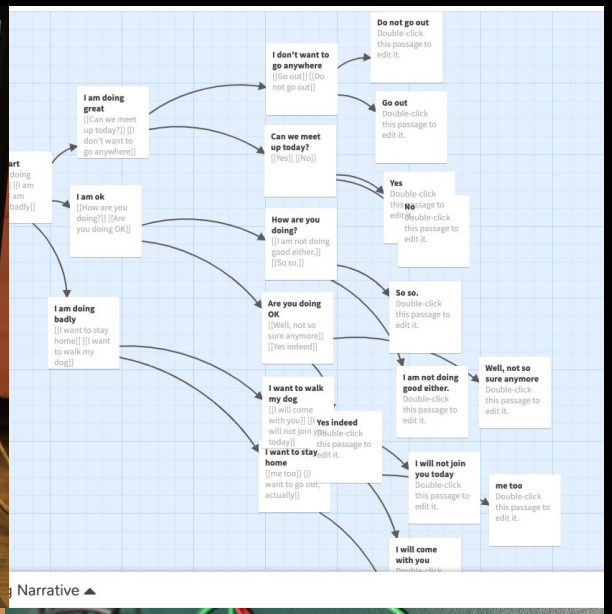
Gender: 11 men, 8 women, 1 gender fluid

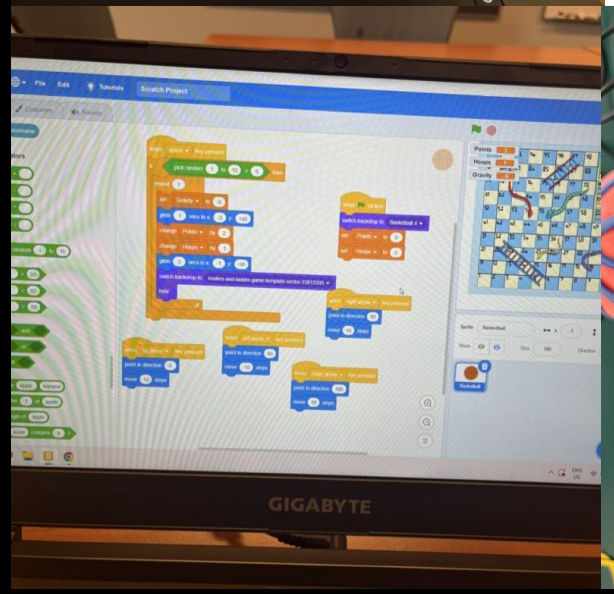
Sexual orientation: majority identified as heterosexual (*N* = 17), 1 identified as gay, 1 identified as pansexual, and 1 queer

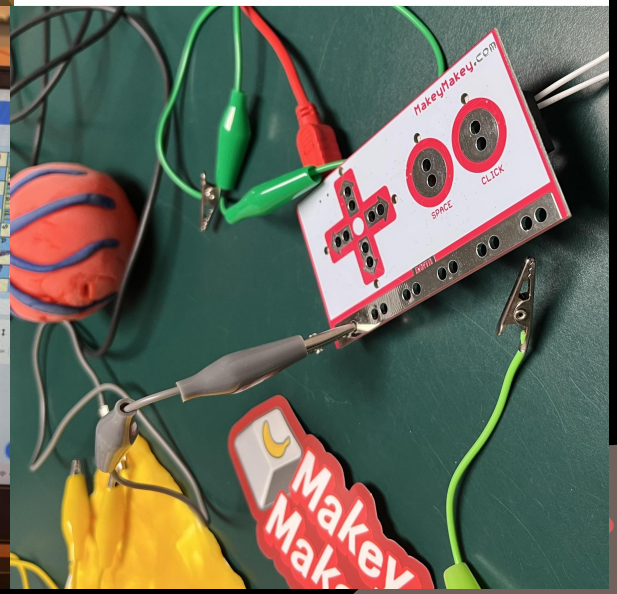
Teaching game design to beginners: best practices

- Make games simple
- Harness pre-made art and music
- Accept support by game design mentors (undergrad RAs)









Game Jam 1	8 participants (all in recovery) 5 Twine & 3 Scratch games
Game Jam 2	6 participants (5 in recovery) 3 Scratch games
Game Jam 3	7 participants (all in recovery) 6 Bitsy games

Preliminary Observations

1. The process of making a game offers a level of reflection and introspection that radically differs from other forms of expression

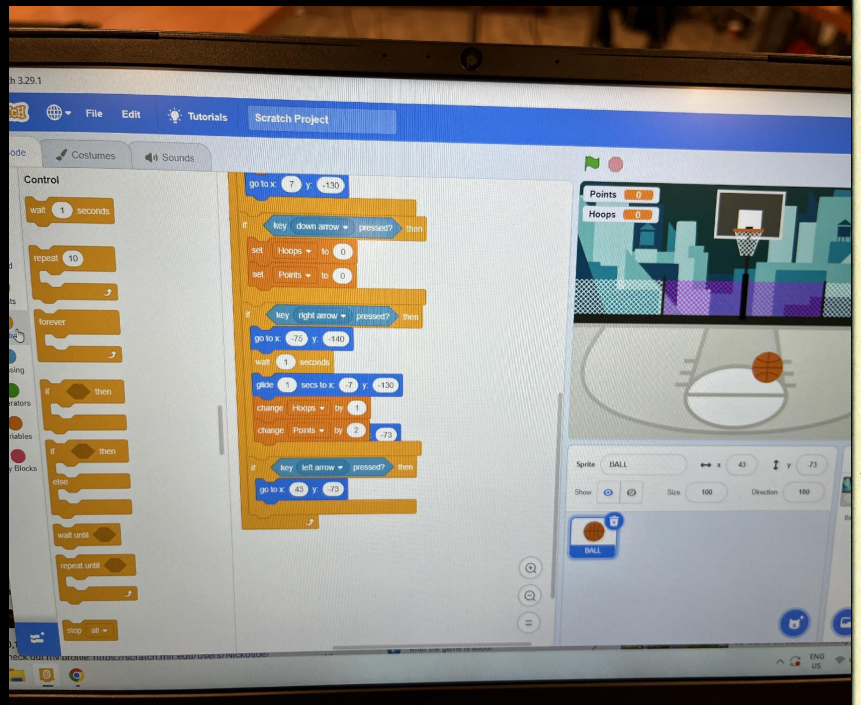
Madison*: “I really think that (telling a personal life story through a game) has opened my eyes to myself a lot more than just sitting down or reading or talking”.

* Pseudonym

Self-Making

Collective-Making

2. The Game Jam is a space for computational creativity that contrasts 12-step programs, methadone clinics, and other medicalized venues for addiction management



Journal
I really enjoyed the game jam!
It was a nice break from
my normal day-to-day. I'm not that
great at computers but I think
I did really good! My story is
a little humourous but serious
too. I didn't do needels or
steal from mom or beg on streets.
but I did things just as bad.
This shows a day in the life.
wake up sick, ~~of~~ and do what you
need to get well.

Metaphor-Making

3. Some jammers harnessed metaphor to represent their lived experiences. Experiences rendered include navigating the healthcare system, living in poverty, and grappling with addiction.

Preliminary Observations

Ree*: “losing yourself in any fantasy is a good way to process reality”

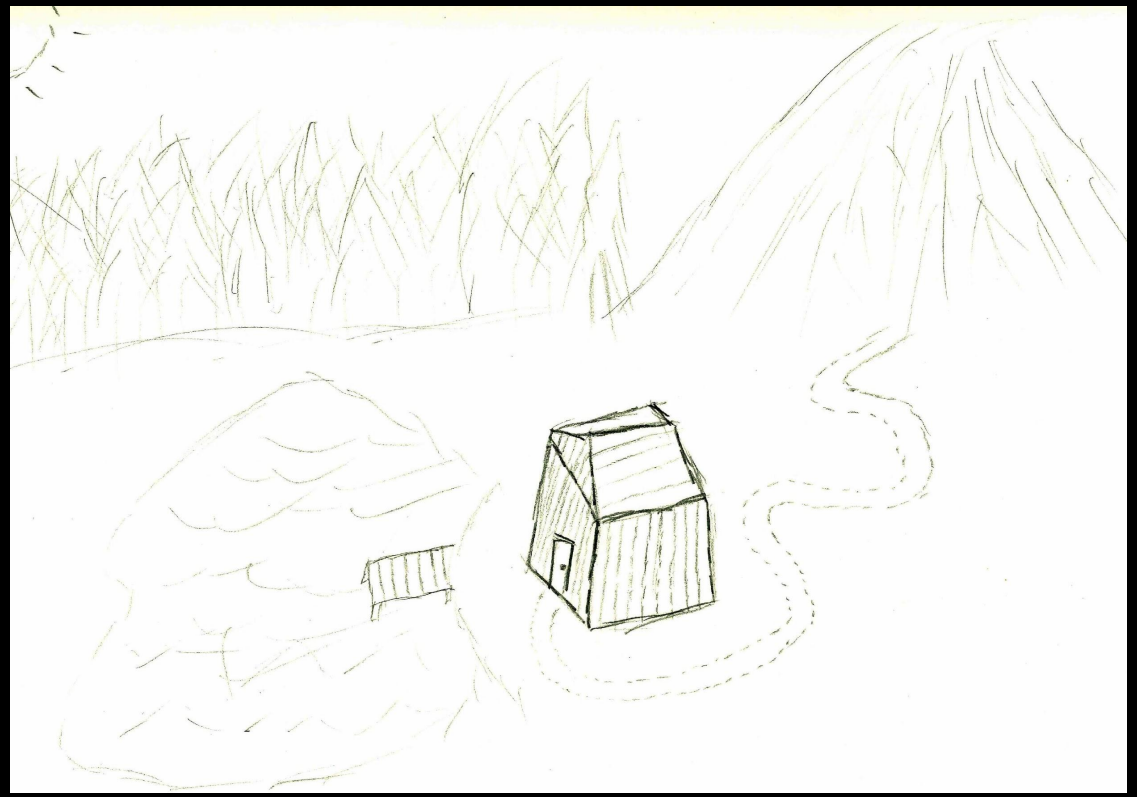


Image: Jammer sketch

* Pseudonym

Game Design Process

Metaphor-Making

Barb's game is called **"Shooting Hoops Going Back and Forth"** and symbolizes her difficulties getting treatment for addiction and other chronic conditions while navigating the healthcare system

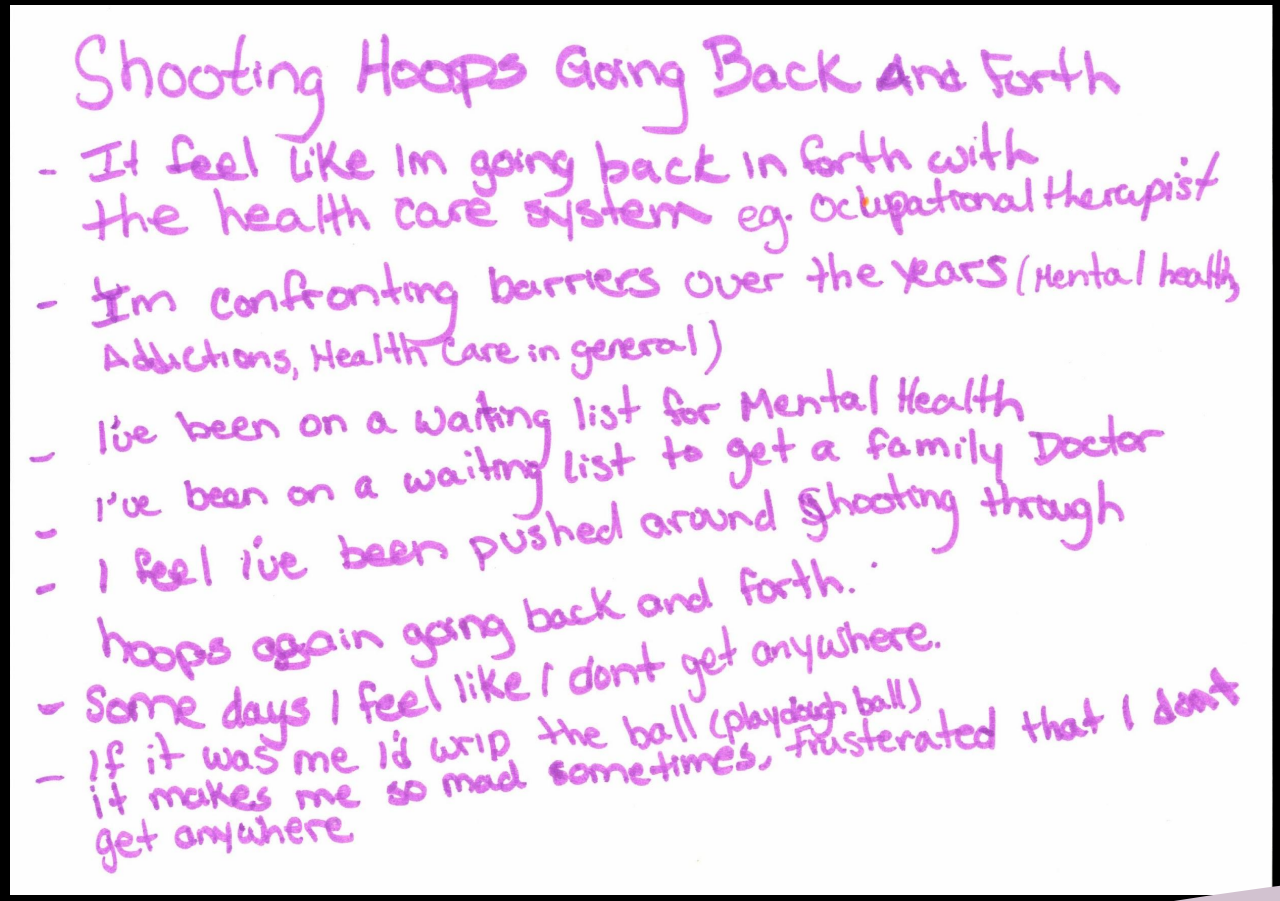


Image: Barb's reflections on her game

Game Design Process

Metaphor-Making

Barb's game is called **"Shooting Hoops Going Back and Forth"** and symbolizes her difficulties getting treatment for addiction and other chronic conditions while navigating the healthcare system

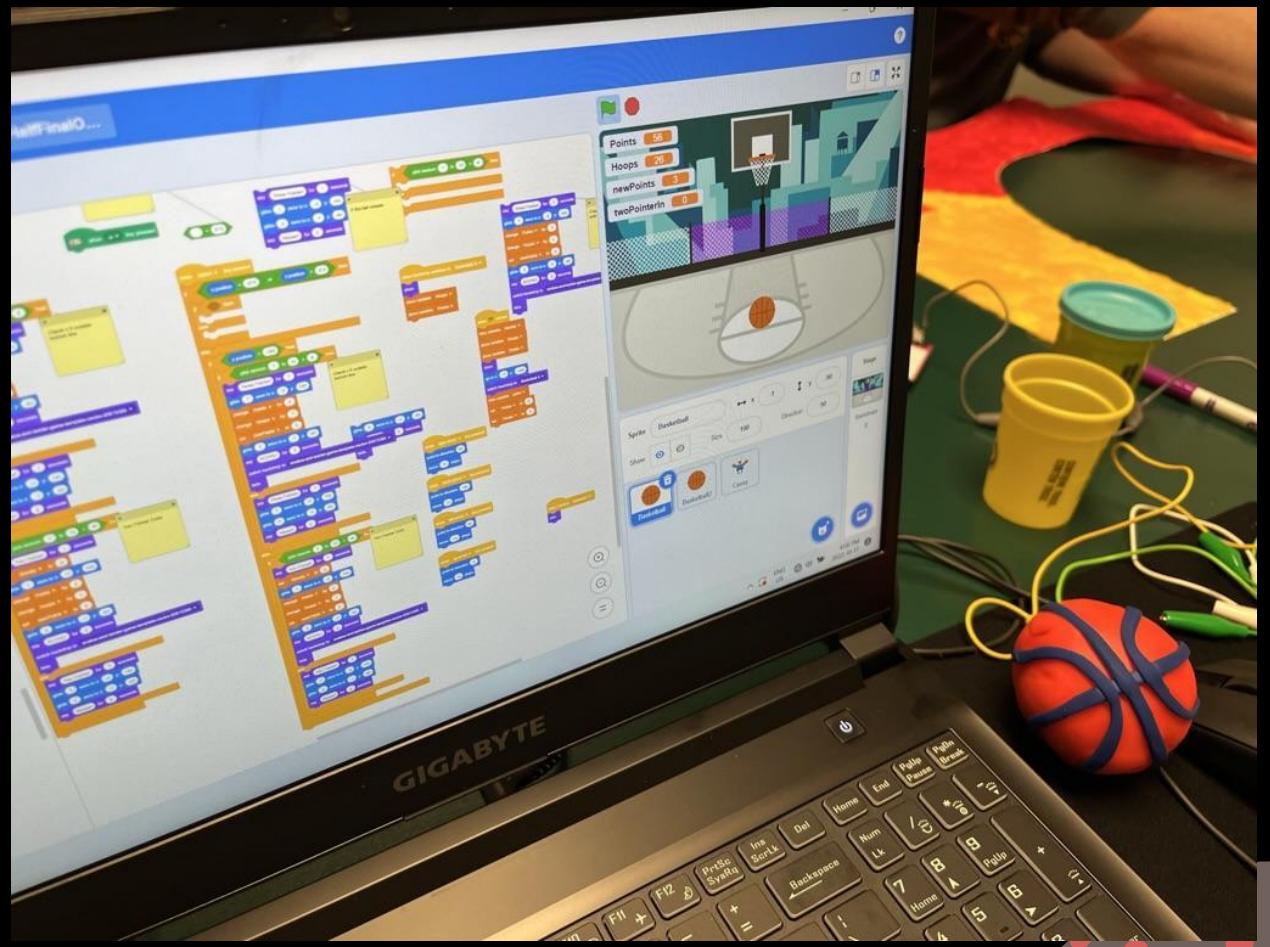


Image: Barb's Scratch game (game engine/UI)

Game Design Process

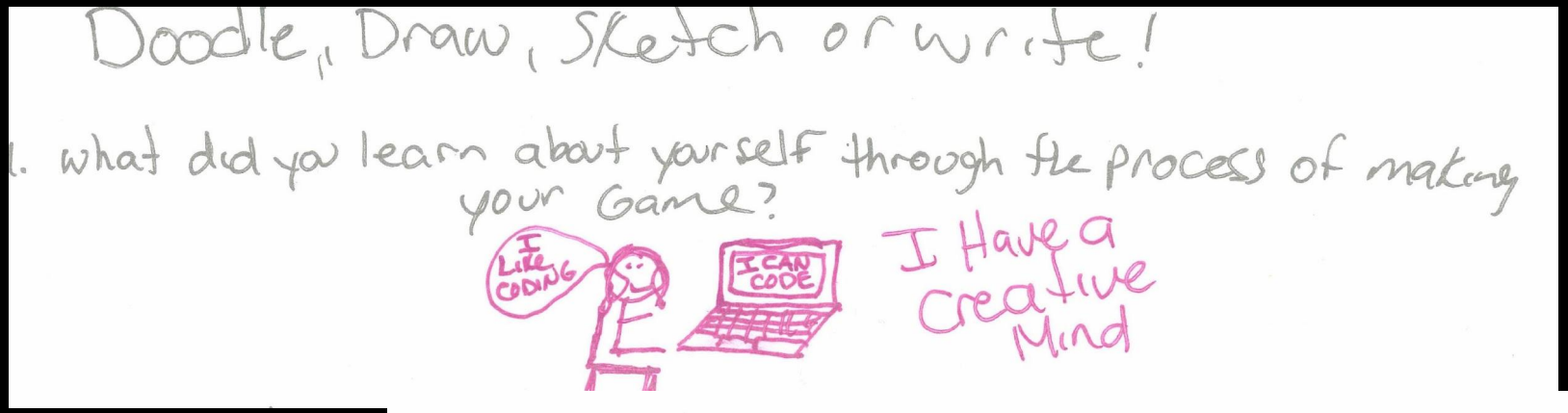
Metaphor-Making

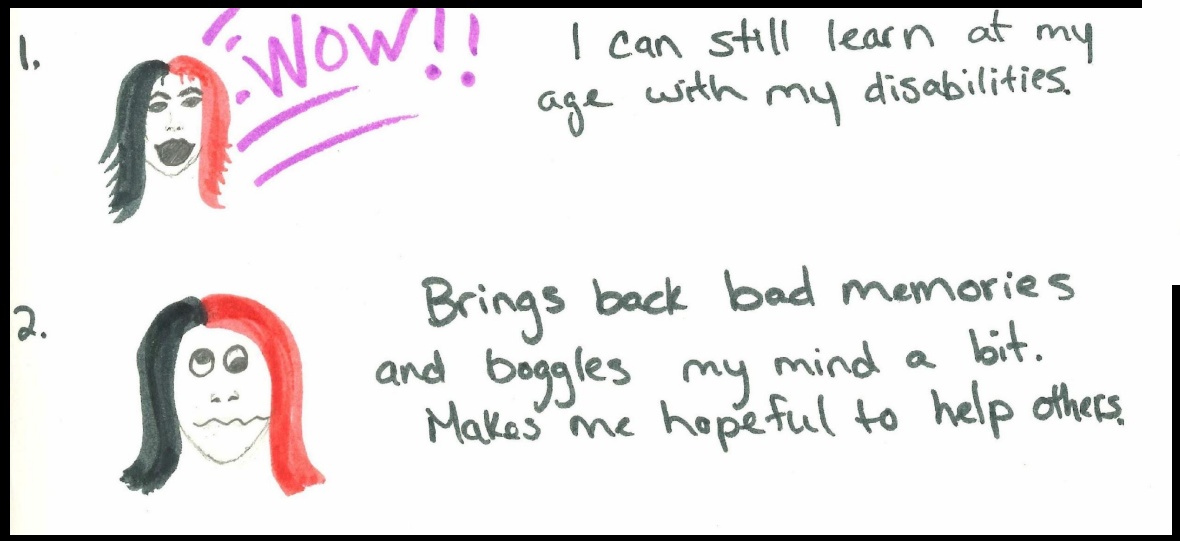
Barb's game is called **"Shooting Hoops Going Back and Forth"** and symbolizes her difficulties getting treatment for addiction and other chronic conditions while navigating the healthcare system

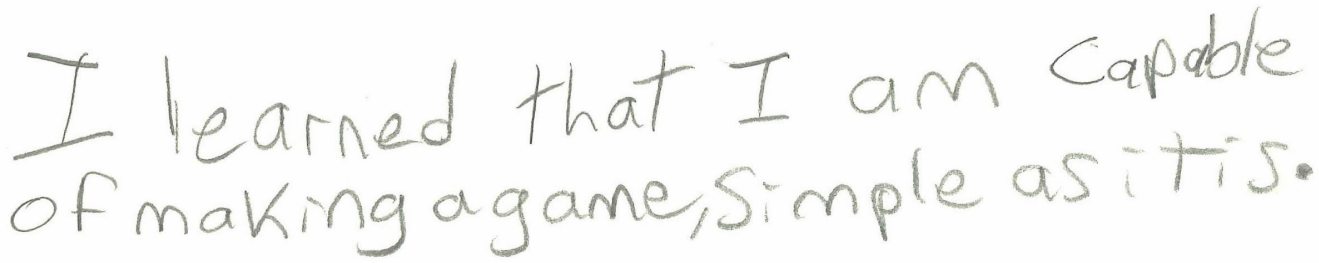
Image: Barb's Makey Makey game controller (basketball court and basketball made of Play-Doh material)

4. Digital game design empowers adults recovering from addiction to take up coding

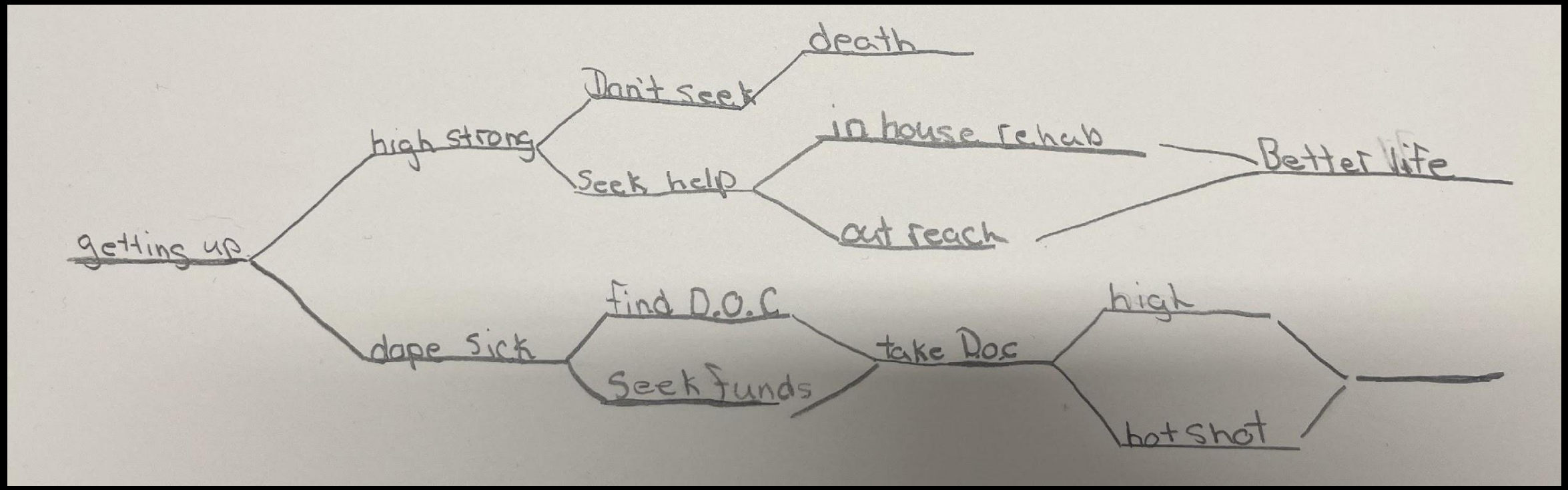
Computation-Making







Images: jammer doodles, sketches, reflections



Games enable the simulation of decision-making processes

Computation-Making

Photo: Jammer sketch of branching narrative

5. Digital game design and game jams may be beneficial to adults in later stages of recovery from opioid addiction – could be integrated into recovery houses.

Preliminary Observations

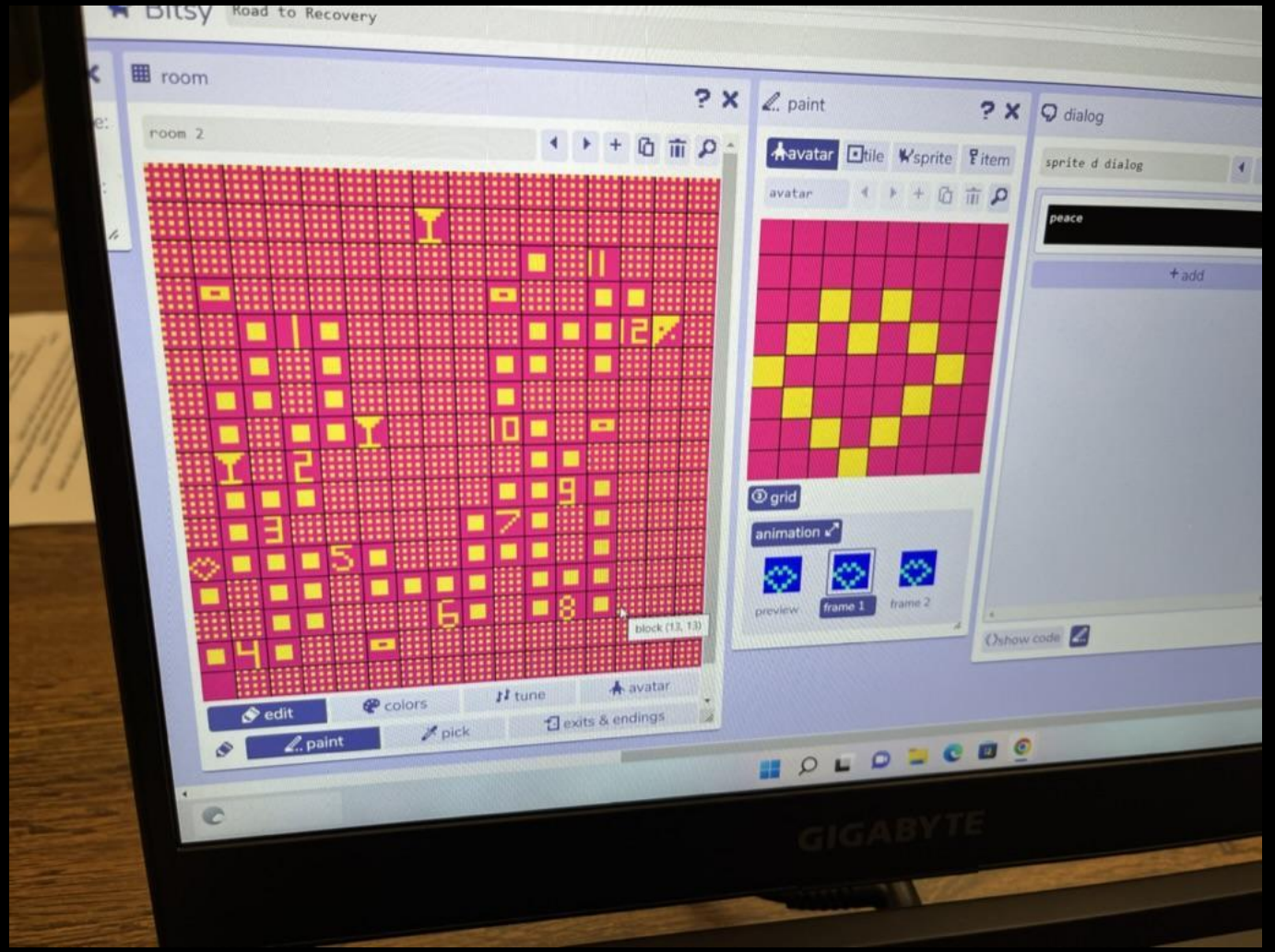
Noah*: “I think (game jamming) could be a good activity for (a) recovery home/treatment center after someone's had a couple of months (of recovery). But people in early recovery, I'm not sure if they're going to get as much out of it.”

* Pseudonym

Implications

- Game jams champion marginalized voices and give decision-making power to underserved communities while making research fun and enjoyable.
- Life storytelling through digital games has the potential to build empathy with the public and challenge preconceived ideas about addiction
- Giving insight to policymakers addressing structural outcomes related to the opioid crisis.

Games: Scratch, Twine, and Bitsy



	Game Jam Day 1	Game Jam Day 2
08:30	Setting up Room with snacks, coffee, game design materials	
09:00	Registration and Consent Form Signing: Sandra, Alia, Catherine	Implementation Jam # 1: gameplay
09:30	Introductions of the Game Jammers: Sandra (throw toy in a circle)	" " + introduction of Reenie
10:00	Workshop on Autobiographical Games: Sandra; Alia's presentation of Obstacles (5 min)	Implementation Jam #2: audio and music (Reenie and Rianna)
10:30	Workshop on Twine: Catherine	15 min BREAK (walk around, snacks)
11:00	Workshop on Scratch and Makey Makey: Daniel	Implementation Jam #3: keep working on game
12:00	Lunch and musical interlude: Rianna (Zoom)	Lunch and musical interlude: Reenie
12:30	Ideation Jam #1: Journaling & Reflecting. Creating an elevator pitch (2-sentence synopsis) for main mechanics and story; PLOT GRAPH SHEET 3-plot points (beginning, middle, end)	Playtesting and Debugging #1
13:30	Presentation of elevator pitches (voluntary)	Playtesting and Debugging #2
14:00	Ideation Jam #2: Audio-visual elements: sketches, doodles, colour palette	Group Discussions (visual journaling interviews)
15:00	Break 15-30 minutes - get up, get a snack, walk around	Takeaways and Wrap-Up
15:30	Implementation Jam #1: gameplay and/or visuals (possibility: cut down to 45 min)	In-depth 1-2 hr interviews with participants
16:30	END	END

Challenges

1. Recruitment challenges due to the COVID-19 Pandemic
2. Interdisciplinary challenges
3. Challenges of doing community-engaged research in universities
4. Game jams are logistically difficult to organize and implement when working with vulnerable and high-risk populations (safety protocol planning needed, the ethics of collaboration)