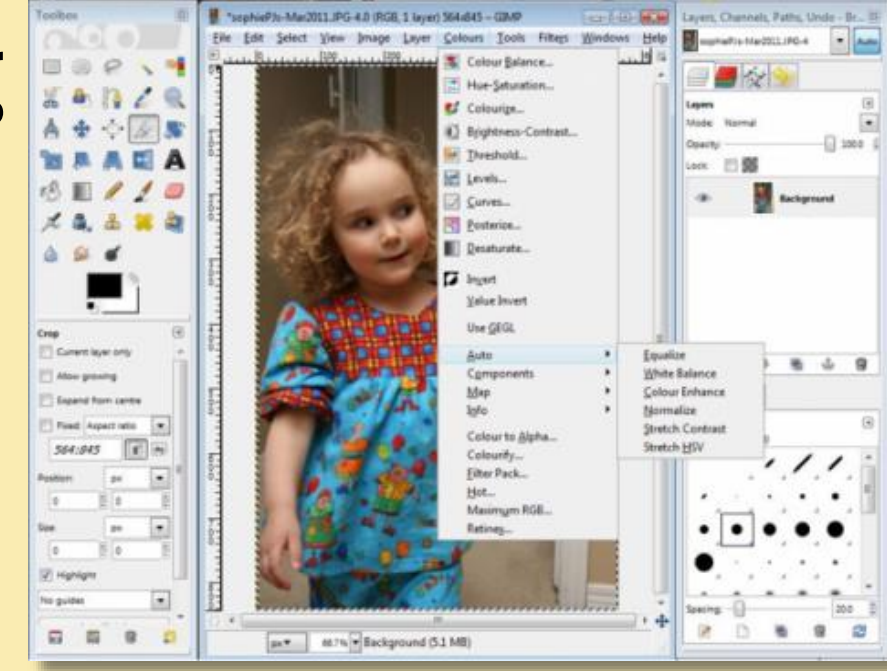


Motivation and Research Questions

- Older adults (OAs) are using feature-rich software more frequently [1].
- Exploratory learning is popular but challenging [2].
- Social support has been promising in IT [3].
- How do OAs experience collaborative learning while exploring feature-rich software?
- What type of interaction patterns emerge between learning partners?
- Are there any differences between mixed-age and same-age pairs' interaction patterns?



Methodology and Data Collection

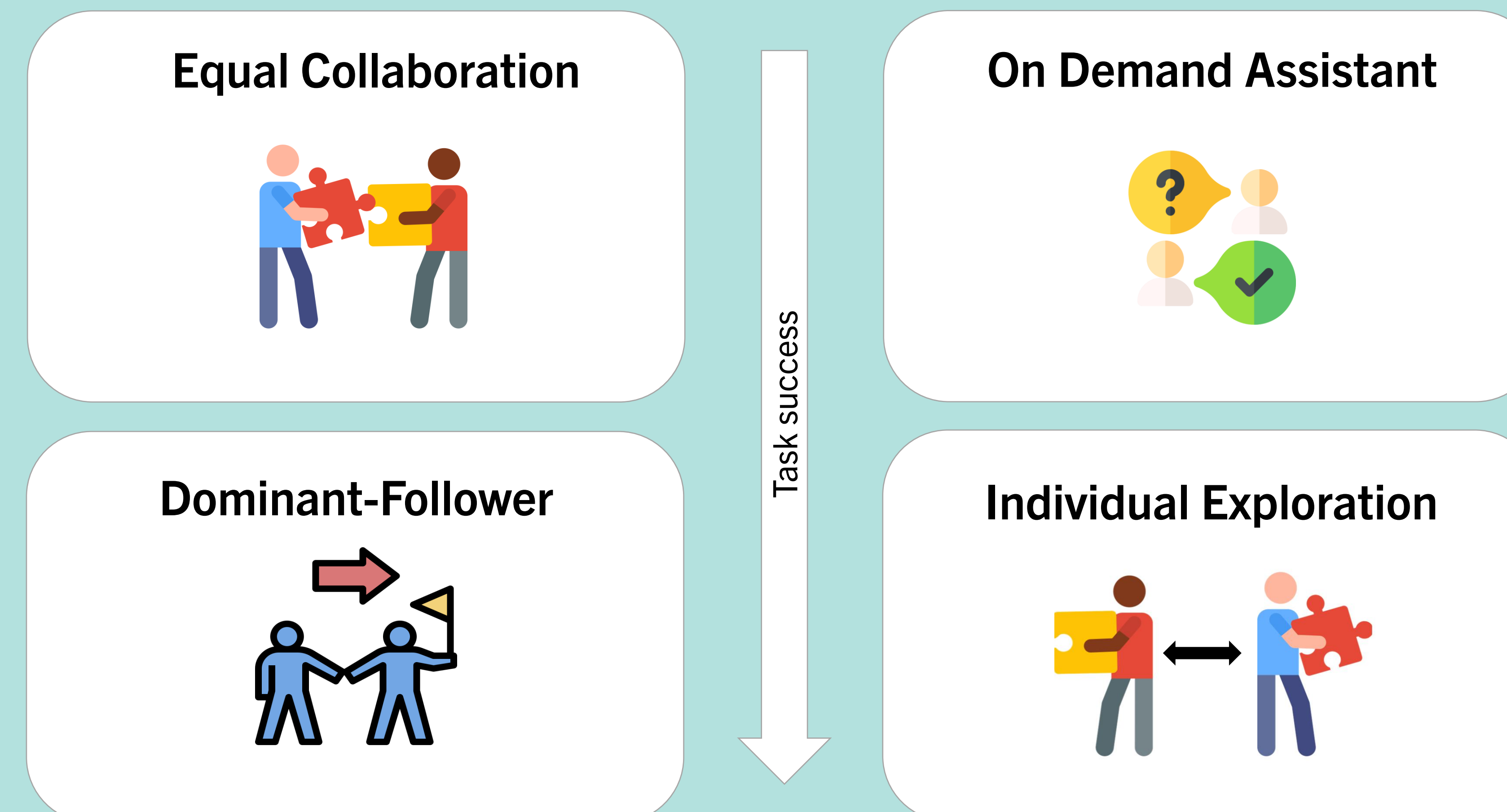
- 16 OAs and 6 younger participants worked remotely in 5 same-age and 6 mixed-age dyads to explore Gather.Town [4] mapmaker.
- First session (1 hr): Introduced participants to the virtual environment and software concepts.
- Second session (2 hrs): Worked on 3 sets of design tasks. e.g., replicating virtual room below.



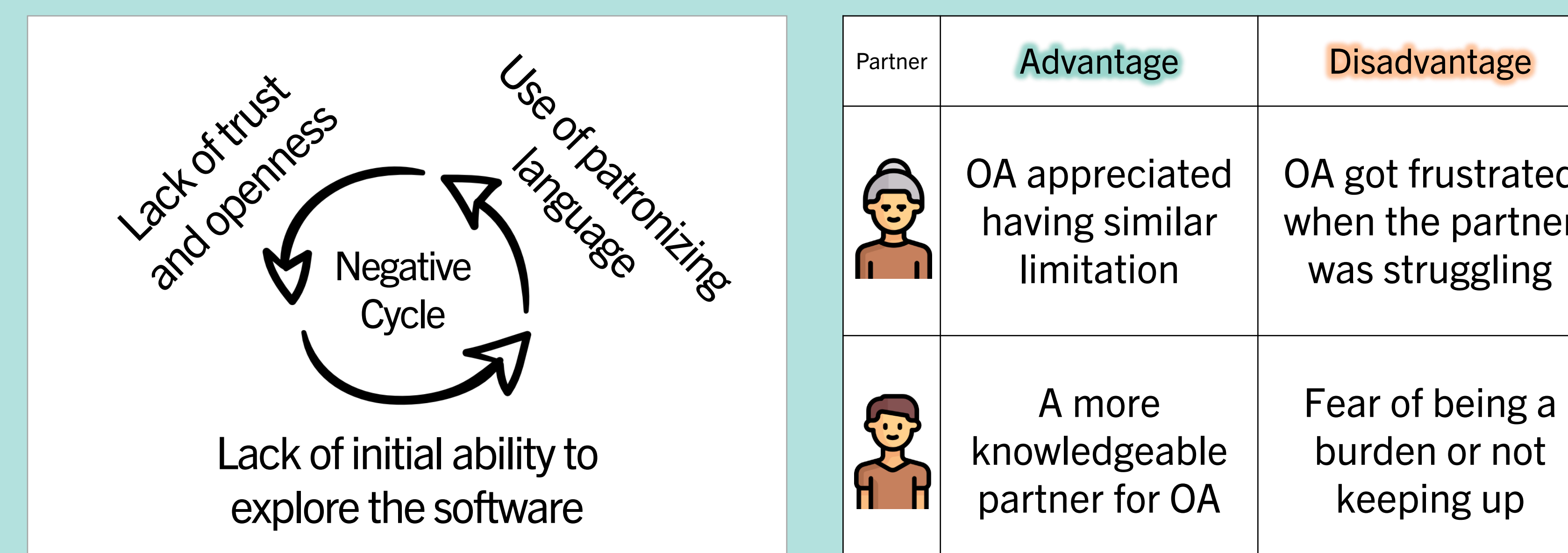
- Pre-study questionnaire: background such as level of education and technology use.
- Screen recording: interaction with each other and with the application.
- Post-study questionnaire and interview: perception about partner and experience.

Findings

Collaboration Dynamics and Task Performance



Impact of Interaction on OA and Participants' Perception



Complex Tasks Assessment

Spatial navigation
(5/16 OAs had issues with moving their avatar)

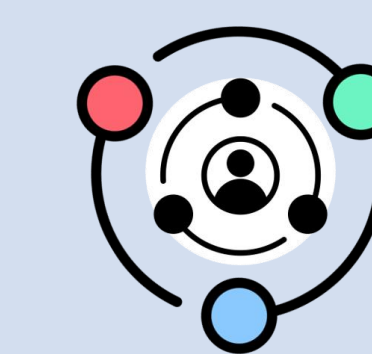
"I have never played computer games at all, so I was pretty unaware of couple of things. So, I depended on [my partner] a lot."
M9-O

Lack of knowledge transfer from similar software

Design Suggestions



Matching system can consider application expertise & partners' perception of each other's competencies



Partners from OA's outer circles might be better than family members



Displaying task progress might encourage communication



Developers can suggest pre-requisite skills to learn an application



Easy-to-access preview modes might facilitate tasks assessment

Future Research

- Measuring the effectiveness of collaboration beyond individual task success.
- Allowing participants to practice simpler tasks over time before attempting to do harder design tasks.
- Different types of software and learning scenarios.

References

1. Shareen Mahmud, Jessalyn Alvina, Parmit K Chitana, Andrea Bunt, and Joanna McGrenere. 2020. Learning Through Exploration: How Children, Adults, and Older Adults Interact with a New Feature-Rich Application. In Conference on Human Factors in Computing Systems - Proceedings, Association for Computing Machinery. DOI:https://doi.org/10.1145/3313831.3376414
2. Carolyn Pang, Zhiqin Collin Wang, and Joanna McGrenere. 2021. Technology adoption and learning preferences for older adults: Evolving perceptions, ongoing challenges, and emerging design opportunities. In Conference on Human Factors in Computing Systems - Proceedings, Association for Computing Machinery. DOI:https://doi.org/10.1145/3411764.3445702
3. Barbara Baschiera and Willem de Meyer. 2016. Support of active ageing through P2P learning. Journal of Education Culture and Society 7, 1 (2016), 180–192. DOI:https://doi.org/10.15503/jecs20161.180.192
4. www.gather.town

This poster has been designed using images from FlatIcon.com.

