

Rationale

Challenges with Alternative Access

- Alternative access methods help people with motor impairments control technology
- But people don't always get methods that are the best fit for their needs
- One reason is a *lack of an integrated toolkit* to guide the access assessment



Research Goals

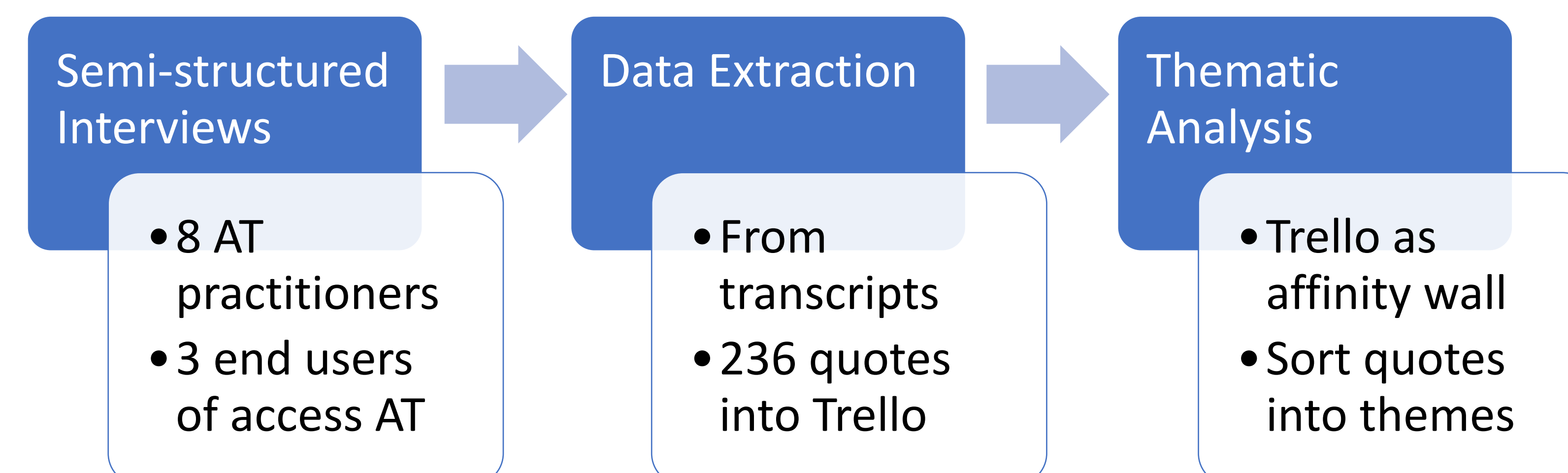
Overall goal:

- Develop a software app (the Access Assistant) that guides AT teams through initial assessment, identifying candidate access solutions, conducting trials of candidate solutions, and selecting solutions

Start with discovery process:

- Inform our product definition before beginning to design prototypes
- Understand gaps and opportunities that an access evaluation tool could address by analyzing the lived experiences of practitioners and end users
- Interview target users to understand their needs

Methods



Extraction and thematic agreement across 3 research team members.
Write a software requirement for each priority theme.

Results: Top 12 Key Themes

Support for Access Assistant concept

- A good access solution can be truly life-changing. Practitioners are highly motivated.
- Practitioners really want a more systematic way to do this work.

Overall: fun & success

- Having fun makes a real difference to both the practitioner and the end user.
- Focus on getting some kind of early success, then expand from that foundation.

Practitioners worry that...

- They're forgetting something or that they don't know enough.
- They'll miss a solution because they don't know it's available.
- They won't meet user and family expectations.
- The recommended tech will be abandoned or won't meet needs.

Flexibility

- When doing test-drives in an assessment, always choose a task that's meaningful, motivating, and well-suited for the user.
- The metrics that matter can vary from person to person, depending on goals, and may not be highly quantitative.

End user needs

- End users value hands-on experience with candidate access methods, but not necessarily all at once.
- An assessment isn't done until you find something that the end user really wants to use.

Results: Example Quotes

"I **worry** that I'm just not going to be able to find something that's going to allow him to have a voice and have control"

"I just hope I'm not leaving anything out, because there's just a lot of detail work... Which would probably be helped if I had something written down and more of **a system**."

Discussion

Overall, we identified 46 themes and corresponding requirements to drive the design and development of Access Assistant.

Confirmation:

- Practitioners welcome a tool that would help them conduct more effective assessments

Some surprises:

- Intensity and prevalence of practitioner worries
- Relatively low importance of quantitative performance measures

Design ideas:

- Provide guidance, a place to start, and suggest options so that nothing is forgotten
- Help people know what's out there and how to learn more
- Help teams find at least a basic initial access solution quickly
- A spirit that's welcoming, reassuring, fun, curious, and supportive

Future Work

- Complete the UI design (wireframes created with Balsamiq tool)
- User UI study #2 slated for Aug-Sept timeframe
- Implement initial system
- Evaluate clinically with 24 practitioners and 24 people with severe motor impairments
- Make the Access Assistant app freely available

Acknowledgements

This work was supported by a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant #90REGE0014) to the Rehabilitation Engineering Research Center on Augmentative and Alternative Communication (RERC on AAC).