

MyCap Mobile App Strategic Evolution to Support Scalability for Hybrid, Remote, and Decentralized Trials



VANDERBILT UNIVERSITY
MEDICAL CENTER



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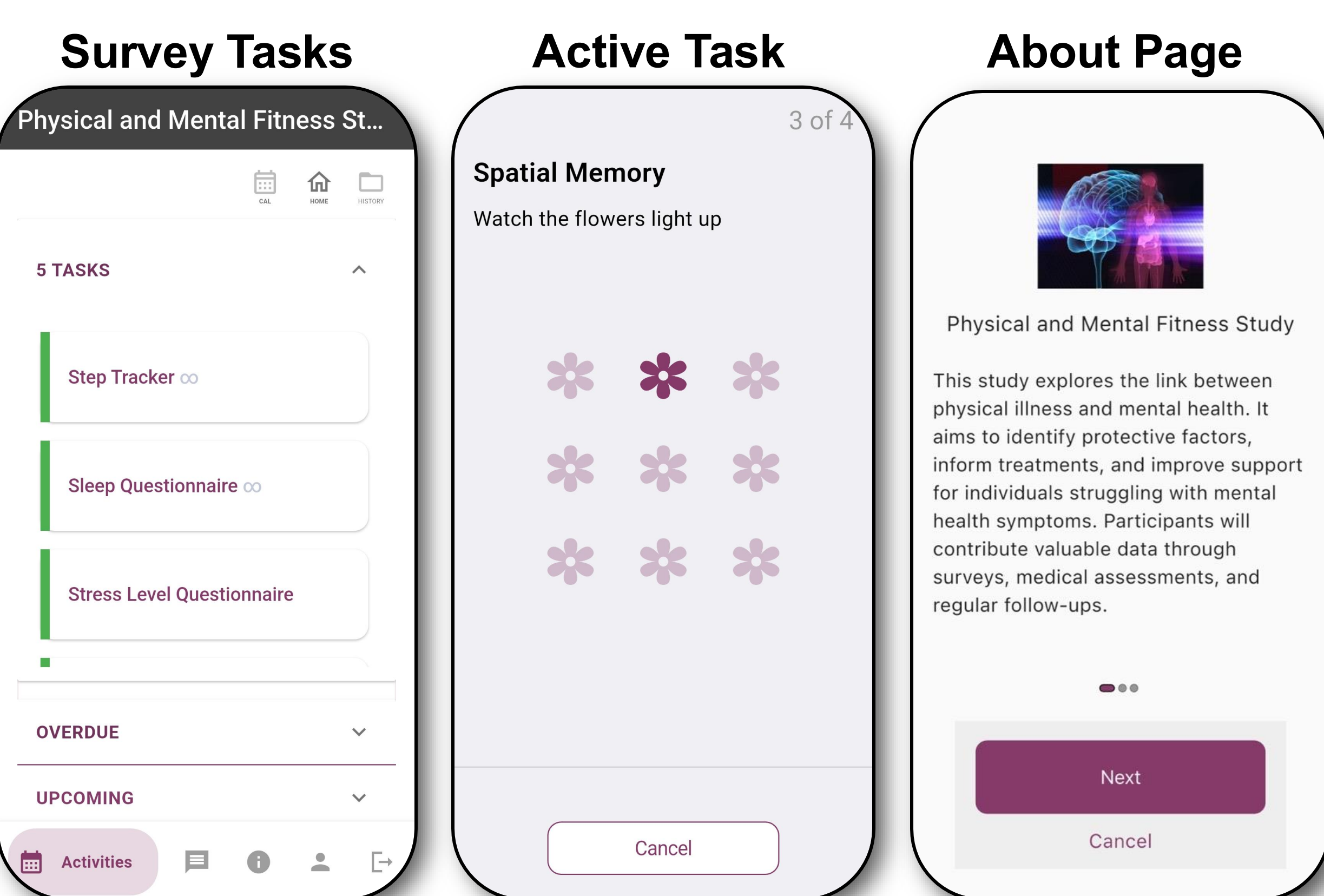


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BACKGROUND

- Clinical research occurs outside the traditional hospital walls with the proliferation of hybrid, remote, and decentralized study designs.
- Vanderbilt launched the MyCap Mobile App in 2018 to support the remote collection of **Patient Reported Outcomes (PROs)** via surveys and mobile-sensing active tasks (ATs).
- MyCap, a **free, no-code** mobile app, was launched as an External Module (EM) in **REDCap** to provide highly customizable features and reliable data storage.



TECHNICAL EVOLUTION

Dec 2022 **REDCap Integration**

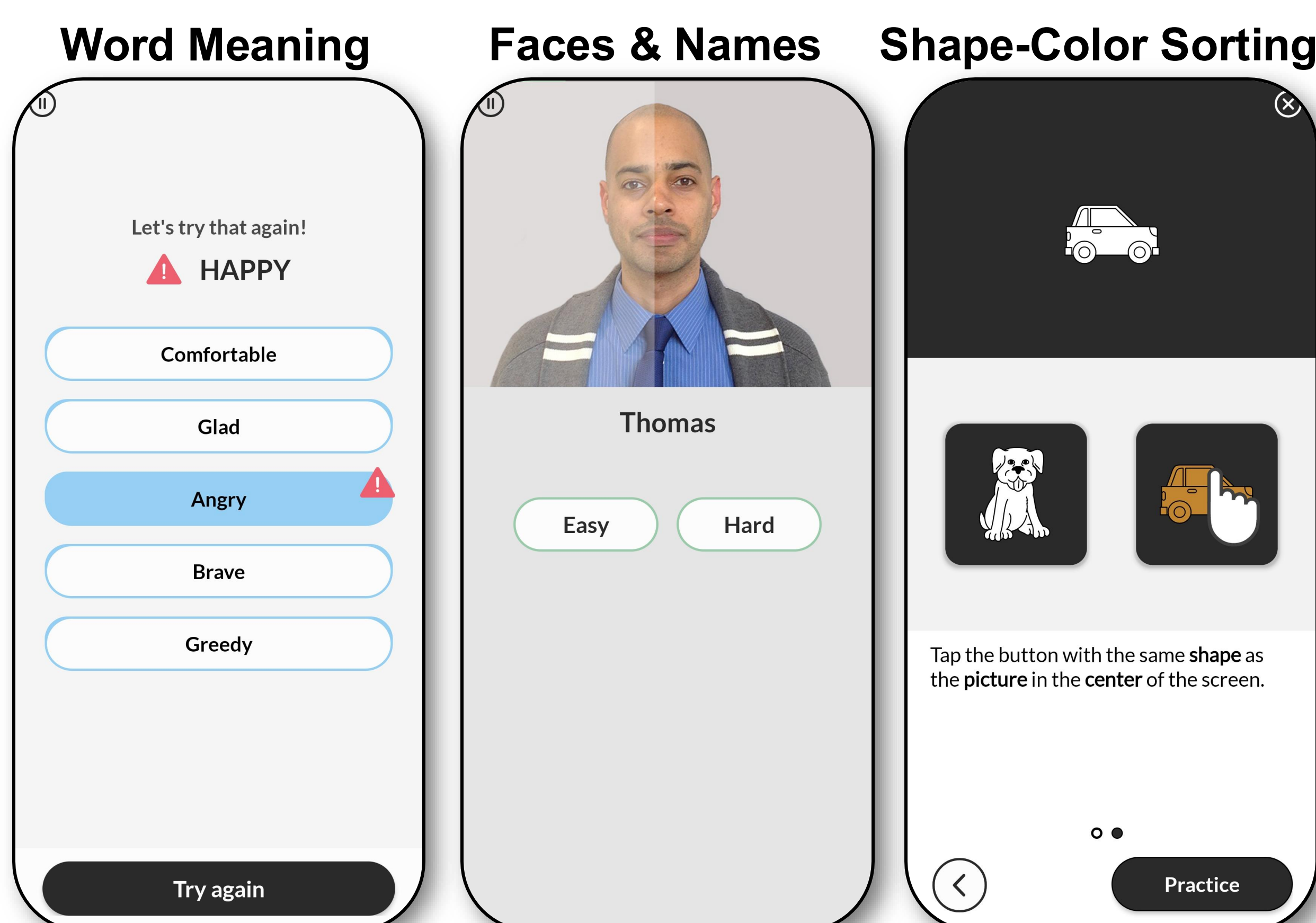
- The External Module linking MyCap to REDCap was fully integration into the REDCap core code
- Enhanced setup, simplified support for new features, and expanded access*

Sept 2023 **App Re-Write**

- Full app rewrite in Flutter framework – use of a single codebase for development on Android & iOS.
- Improved interface, harmonized REDCap features, parity in ATs on Android & iOS, & multiple users/device.*

May 2024 **Integrated Mobile Toolbox (MTB)**

- Collaboration with Northwestern to integrate NIH-funded MTB cognitive tests into MyCap as a proof of concept for supporting tasks developed by external parties (images below).
- Extend capabilities and establish framework for supporting third-party ATs.*



USE CASES

MyCap Use Case	Participant Activity
Active Labor Study: Five U.S academic institutions evaluated MyCap's usability for real-time patient-reported data collection during latent labor, from labor onset through hospital admission.	Tracked contraction frequency and duration in MyCap when symptoms of labor began. Participants also recorded symptoms and coping methods as the latent phase of labor progressed.
Assessing Personal Light Exposure- Developed a protocol for assessing personal light exposure and its determinants across six countries, focusing on physiological, behavioral, and contextual factors.	Recorded timepoints while wearing a light device, filled out daily sleep diaries, completed questionnaires on light exposure 4x/day, and completed daily assessments on alertness and sleepiness.
Remote Patient Monitoring in a Phase 2 Covid-19 Vaccine Trial- The University of Rochester utilized MyCap for remote patient monitoring of possible influenza-like illness (ILI) following COVID vaccination in healthy adults.	Answered weekly questions in MyCap following vaccinations to assess for ILI symptoms.

USABILITY & FEEDBACK

Use of MyCap was evaluated in a study exploring financial incentives for study participants (n=286):

- 😊 90% reported that MyCap was **very or extremely easy to join**.
- ☑ 85% reported that it was **very or extremely easy to complete tasks**.
- 👍 76% reported that it was **very or extremely easy to complete ATs**.

Study Team Feedback on Using MyCap:

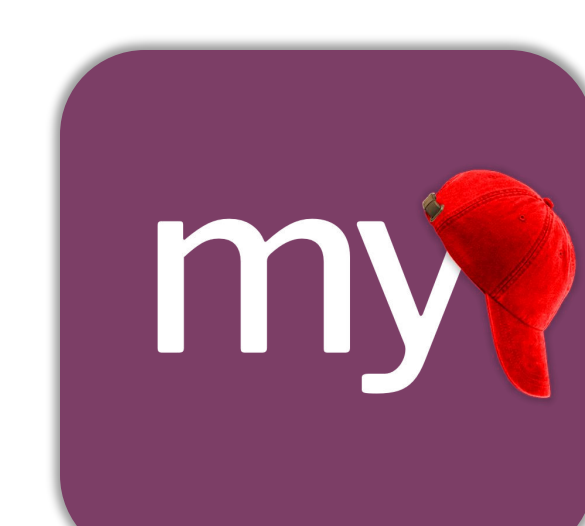
- "We wanted to make the test as **simple and convenient** as possible for the participants while maintaining the highest levels of **privacy, efficiency and data and sample integrity**".
- Simon Mallal, MD, Covid-19 Surveillance Study
- "We are all over the country and MyCap **allowed us to work together really well**."
- Julia Phillippi, MSN, CNM, APRN, PhD, Labor Study
- "It (MyCap) **saved countless man hours** which would have been spent making weekly phone calls to subjects to document ILI symptoms."
- Angela Branche, MD Vaccine Trial

CONCLUSION

- ADAPTATION IS CRITICAL TO EVOLUTION:** Incremental app changes guided by community feedback, allows MyCap to iteratively expand to meet researchers' needs.
- TOGETHER WE CAN INNOVATE:** Partnering with Northwestern immediately expanded MyCap's feature set and created an opportunity to integrate others' assessments.
- GOOD TOOLS ARE UTILIZED:** MyCap continues to grow in utilization, fostering a central 'study home' for participants.
- LISTEN AND LEARN:** Assessing MyCap utility and satisfaction from both study team and participant perspectives is underway to ensure MyCap remains relevant and reliable.

Try it out!

Scan the QR code to join a sample project.



EARLY UPTAKE

- From 2018 and 2021, **participants in 135 countries** downloaded the MyCap app.
- By 2022, **881 institutions installed the EM**.
- Additional statistics were unavailable via the MyCap External Module configuration.

BARRIERS TO USE

- ACCESS:** Not all institutions allow use of REDCap EMs.
- TECHNICAL SCALABILITY:** MyCap had separate code bases – iOS and Android, which increased in size and complicated maintenance and development.
- FEATURE PARITY:** Different features were available on iOS and Android (ResearchKit ATs).

RESULTS

Oct. 2024:

- 746 institutions
- 72 countries
- 17,686 participants
- 4,154 projects

Oct. 2025:

- 1,124 institutions (+51% YoY)
- 87 countries (+21% YoY)
- 33,691 participants (+90% YoY)
- 8,196 projects (+97% YoY)

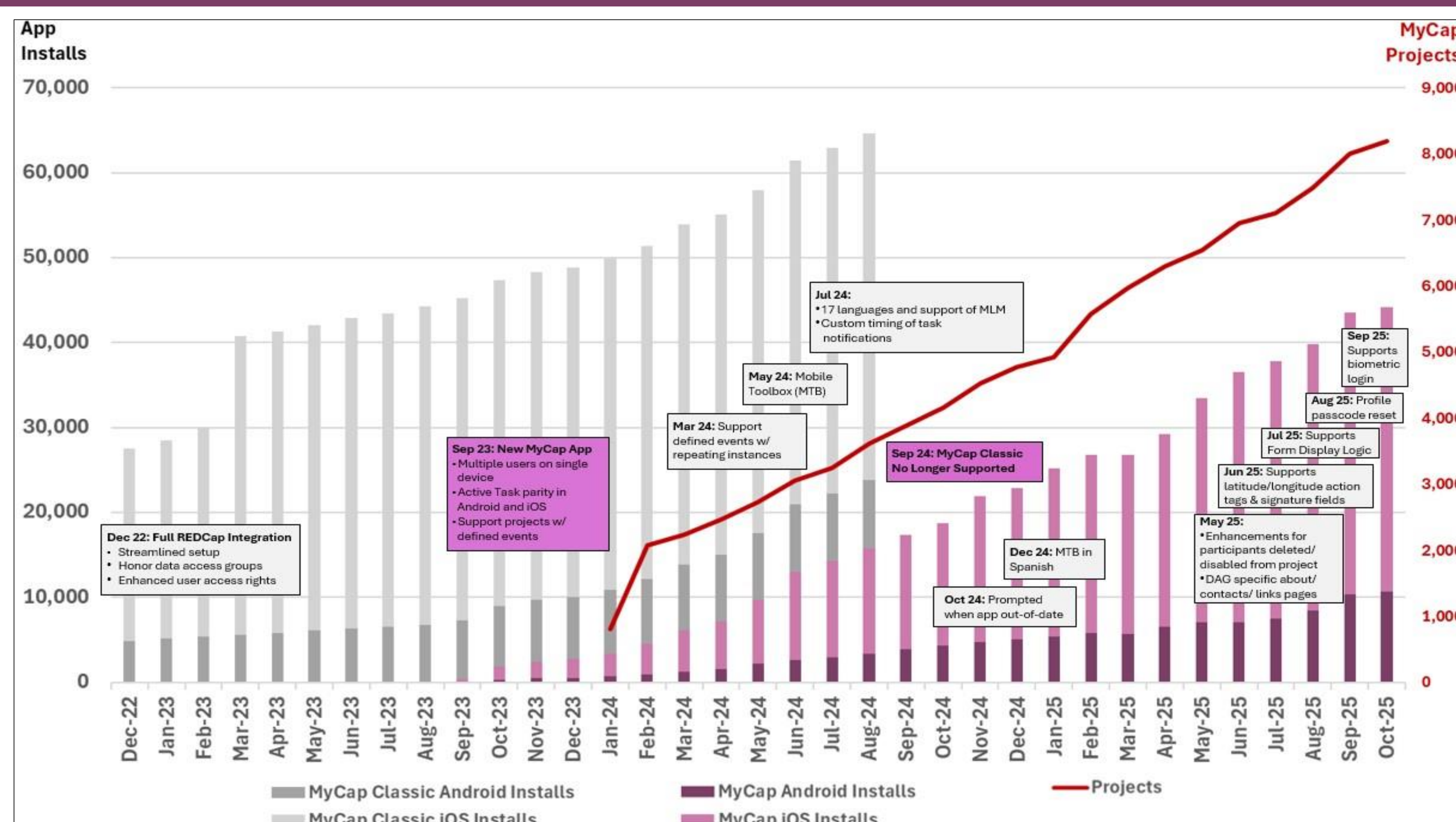


Figure 1- Growth of app installations and projects over time