

Adam Maus

I am passionate about developing innovative software and technology to help others

EDUCATION

University of Wisconsin - Madison

Masters in Computer Sciences (2011 - 2012)

Bachelor of Science in Computer Sciences (2005 - 2010)

WORK EXPERIENCE

Center for Health Enhancement Systems Studies (CHESS) at University of Wisconsin - Madison

Lead Software Developer: 2014 - Present; Developer: 2010 - 2014; Intern: 2007 - 2010

- Write and support code for several large randomized clinical trials with thousands of participants including older adults, patients in recovery for substance misuse, patients undergoing cancer treatment, substance use treatment organizations, and others. As of March 2024, we currently have over 8 active research projects with over 28,000 users.
- Mentor full-time and student CHESS software developers which includes coordinating project development and maintenance, reviewing code and helping triage issues, and providing feedback to help improve technical and “soft” skills.
- Research and offer technology recommendations to project study staff, researchers, and collaborators when planning, developing, and maintaining projects.
- Primary contact person when working with vendors and UW DoIT to keep CHESS infrastructure and services such as servers, app store apps, code repositories, etc. running.
- Work with statisticians to prepare and disseminate data for publication from CHESS systems. Worked on a team to improve research data collection, management, and analysis processes at CHESS. Published a journal article in 2023 about our data collection process.
- Set up and maintain 21 Linux and Windows servers. One still runs CHESS code from 1999!
- Improved software development practices by formalizing and documenting our processes for developer onboarding, documentation, app deployment, quality assurance, automated testing, maintaining security, collecting app data, and professional development.
- Developed and maintain a modular PHP framework to easily move functionality and user interfaces between CHESS projects that is used as the foundation for all of our current projects. Applied for and won funding for development of this framework from a large software company in the Madison area in 2017.
- Completely rewrote the frontend code library we developed over several projects to make app development faster, more efficient, and less error prone.

- Work with researchers in UW-Madison Computer Sciences to develop and maintain the code and server infrastructure for two smart speaker skills designed to help older adult study participants improve their Chronic Pain and Functional Movement.
- Sole developer and maintainer of an app built with UW-Madison Psychology department researchers to gather survey, SMS/Call, and location data when people misuse opioids with an aim to predict when people will use based on their location, who they are talking to, and the language they use.
- Nominated by CHESS in 2023 and 2024 for the UW Martha Casey Award for Dedication to Excellence. This award recognizes “unsung heroes” who perform their assigned jobs outstandingly and keep things running. These individuals are on the front lines of day-to-day work and lead from within the organization.
- Developed a JavaScript application for researchers to stay connected with study participants and monitor their Opioid addiction recovery. I worked closely with study staff to identify issues and find ways to make study administration easier for them. This application has been used in all our active projects in one way or another.
- Worked with Wisconsin Department of Health Services and researchers across UW-Madison to develop a social networking app to support people and fight misinformation during the COVID-19 pandemic.
- Sole developer of an Android and iOS app built between January and May 2018 for Tick monitoring and prevention for the Midwest Center of Excellence in Vector-Borne diseases. In 2019, I rewrote the app using the Ionic framework in 4 months. Since then, we continue to improve the app each year. In 2023, I designed and developed an interface that integrates with an AI system to help researchers identify ticks in pictures submitted by users. The Tick App has been used by over 23,000 people across North America.
- Wrote the first draft of a winning proposal for the Ohio Opioid Technology Challenge in the summer of 2018 for work related to A-CHESS, a smartphone-based system for people in recovery for opioid use disorder.
- Developed the idea for using a virtual counselor for people in recovery for opioid use disorder and led a team to win the first round of the Foxconn Smart Cities - Smart Futures competition in 2018 based on that idea.
- Mentored an undergraduate student as a part of the Undergraduate Research Scholars program in the development of a JavaScript application for nurses and doctors to see patient health data using user-centered design principles.
- Led a small study about how older adults perceive recommender systems and presented the work at the Intelligent User Interfaces conference in 2015.
- Worked with graduate students in Industrial & Systems Engineering at UW-Madison to collect and analyze data taken from OBD2 devices in the cars of older adults and then

displayed that data in an easy-to-understand online "Trip Diary" to help mitigate risky driving behavior.

- Maintain and improve legacy code from the early 1990s that rely on ASP and VBScript.

SELECTED RESEARCH EXPERIENCE AND PUBLICATIONS

- Service-Action-Objects: A cross-platform method for logging interactions in digital systems. **A. Maus**. (Software Engineering Notes, April 2023)
- Polite or Direct? Conversation Design of a Smart Display for Older Adults Based on Politeness Theory. Y. Hu, Y. Qu, **A. Maus**, B. Mutlu. (Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems, April 2022)
- Using trip diaries to mitigate route risk and risky driving behavior among older drivers. Journal Article. R.P. Payyanadan, **A. Maus**, F.A. Sanchez, J.D. Lee, L. Miossi, A. Abera, J. Melvin, X. Wang (Accident Analysis & Prevention, September 2017)
- Using the NIATx Model to Implement User-Centered Design of Technology for Older Adults. Journal Article. D.H. Gustafson Jr., **A. Maus**, J. Judkins, S. Dinauer, A. Isham, R. Johnson, G. Landucci, A.K. Atwood (JMIR Human Factors, January 2016)
- Surveying Older Adults About a Recommender System for a Digital Library. Conference Paper. **A. Maus** and A.K. Atwood (20th International Conference on Intelligent User Interfaces, March 2015)
- Evaluating Lyapunov exponent spectra with neural networks. Journal Article. **A. Maus** and J.C. Sprott (Chaos, Solitons & Fractals, June 2013)
- Neural network method for determining embedding dimension for time-delayed systems. Journal Article. **A. Maus** and J.C. Sprott (Communications in Nonlinear Science and Numerical Simulation, August 2011)
- Presentations by undergraduate researchers I mentored:
 - "Connecting Older Adults and Healthcare Providers Through a Social Networking Website" by Junho Oh presented at Undergraduate Symposium 2016, UW-Madison
 - "Assessing Alcohol Abuse Statistics Through Data Analysis of Social Networking Sites" by Jesse Gomer presented at Undergraduate Symposium 2012, UW-Madison
- Other publications available at:
 - https://researchgate.net/profile/Adam_Maus
 - <https://orcid.org/0000-0002-5896-5230>

SPECIALITIES

Linux Server Administration, MySQL and SQL Server Database Administration, DevOps, Continuous Integration / Continuous Deployment, User Experience Design, Java, PHP, .NET, Javascript, Typescript, Android development, iOS development, Python, AngularJS, documentation, and unit / integration testing

OTHER INTERESTS

Running and Biking (completed seven marathon races, one Half-Ironman triathlon, one 50k running race, and a 100-mile bike ride), Cooking, Reading science fiction, Writing (was a finalist at 2020 Austin Film Festival for a full-length Holiday Romantic screenplay named "Holiday on the Hills" written with my brother), Active member of the Friends of Military Ridge State Trail: Maintain their website, developed a way for the group to collect donations online, and help with trail maintenance projects.