GLASSsccessibility Project

GOALS
• Develop memory assistive apps
• And foundational research
• For GLASS
• That get better and better
• Using machine learning

PROPOSED WORK

Memory Enhancement using Machine Learning

• Assist those with memory deficiency
• Alerts for upcoming schedule items
• Learn wearers daily routine automatically
• Detect and learn new places and faces
• Discover schedule items based on location, time and day
• Enable caretakers to customize schedule entries
• Identify people, objects and locations using visual cues and GPS

Who Is This?
• Face Identification
• Acquire video using GDK
• Locate face in frame
• Search for face match using GDK or Mirror API
• Display name if found
• Or request name to learn a new face
• Party mode – actively tag all faces in real time

What is That?
• Thing Identification
• Locate object in frame
• Search for object match
• Display name if found
• Or request name to learn

User Testing
• Existing infrastructure for testing
• Entrepreneurship Program in Business School
• Explore testing and productization

Serendipity
• Plan to actively play with GLASS
• We expect to discover new ideas
• Research in machine learning, memory assistance, facial recognition, object identification, low power & wearable computing

My Google
• Supervised & unsupervised learning
• Personalized “view” of Google is developed
• Interactions over time improve the “view”

Unexpected
• Learns what “normal” is
• Identifies unexpected activities, events, people, and places
• Guided adding of new things to remember

Inspiration
• Dr. Way’s dad has early stage Parkinson’s and family history of memory loss
• Hope to help people whose loved ones could benefit from memory assistive technology

“My Dad’s Backup Brain”

Other Research
• Parsing & Translation
• Machine Learning
• Sentiment Analysis
• Computer Science Education
• SMS Conversational Agents
• Plagiarism Detection
• Nanocompilers
• DHMO.org

What’s Next?
• Grabs Calendar events with Mirror API
• Presents scheduled Alerts
• Recognizes new locations, guides adding a new Alert

TEAM

Dr. Tom Way
Dr. Bill Wagner
Corinne Reimers
Adam Bemiller