



# Wizard of Oz Prototypes

# Learning Goals

- Understand what Wizard of Oz prototypes are
- Know how and when to use Wizard of Oz prototypes

How would you  
build a prototype?

In a day?

In an hour?

In a week?



- Compare different voices and personalities
- Participants got a set of tasks
- Experimenter played pre-recorded sound files
  
- Participants did not even notice that no speech recognition or reasoning was involved

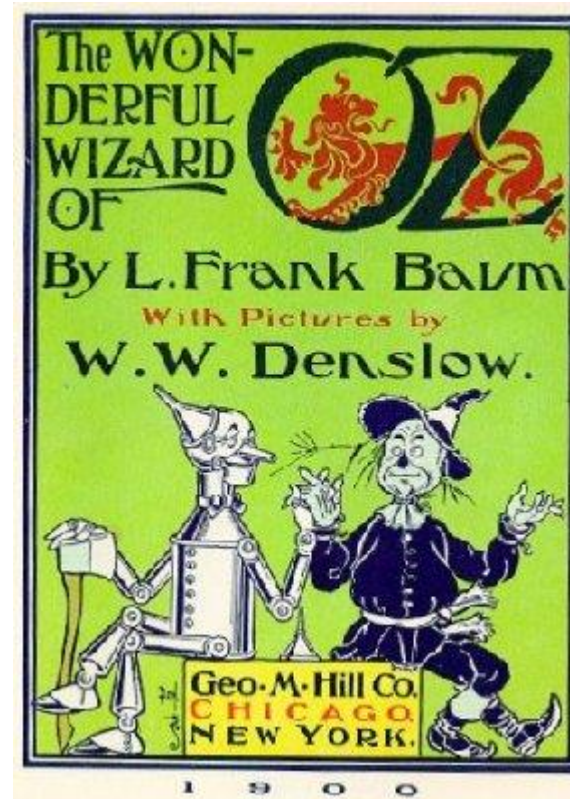
# Development is hard – not testing is harder

- Often unclear if a system is worth the development effort
- Especially true for systems requiring novel hardware or algorithms
- Learning if the system is useful and the functions users want requires the system

# Wizard of Oz

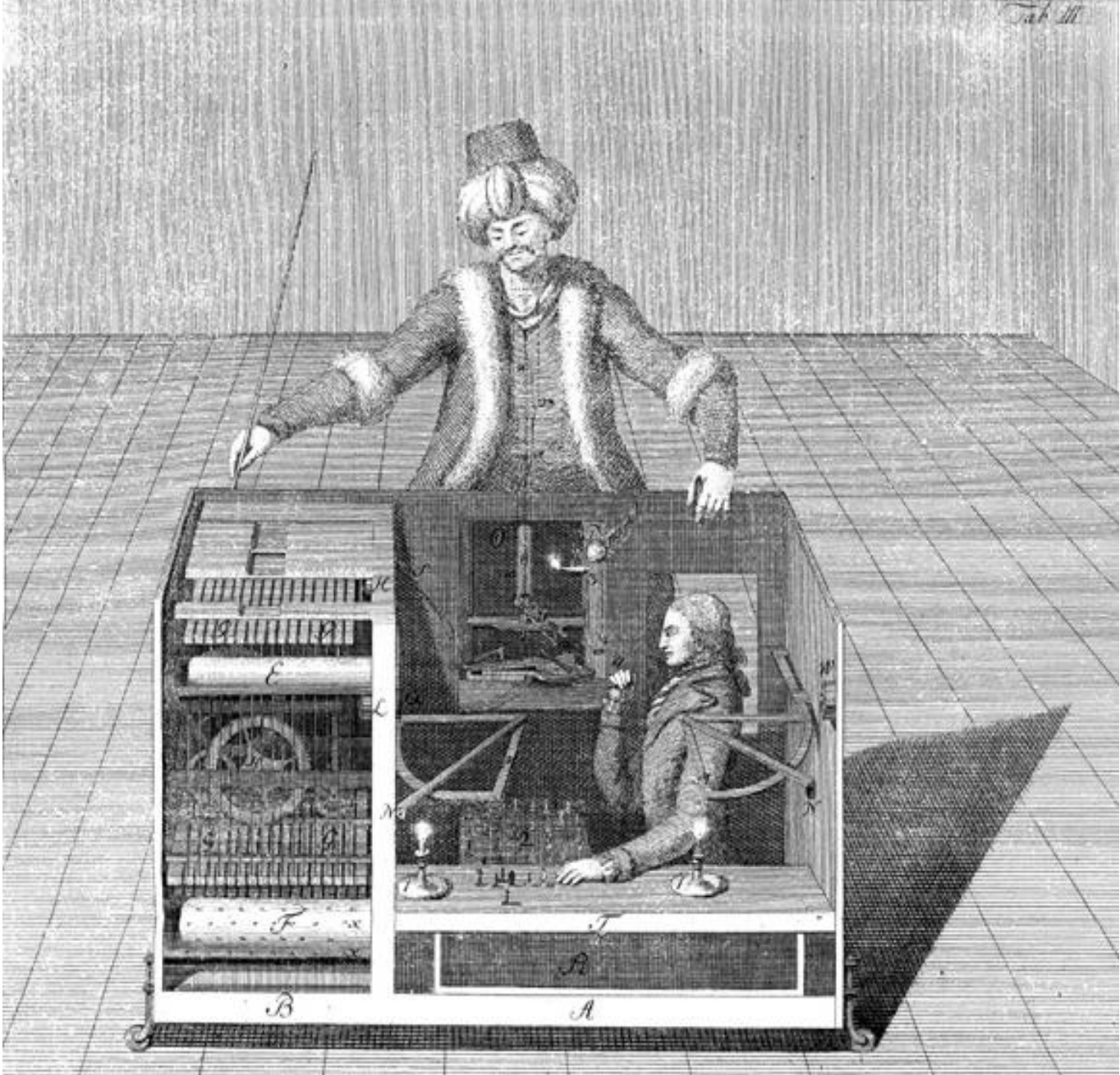
- An invisible 'wizard' controlling parts of the functionality
- We only implement the easy parts but leave the hard part to the human operator
- Provides the user with the experience without extensive implementation effort for the prototype
- Typical areas
  - Speech recognition
  - Speech synthesis
  - Annotation
  - Reasoning
  - Computer vision

- “Wizard of Oz is a rapid-prototyping method for systems costly to build or requiring new technology. A human “Wizard” simulates the system’s intelligence and interacts with the user through a real or mock computer interface.”
- “Pay no attention to that man behind the curtain ...,” takes on a new meaning when the curtain is replaced by a computer terminal



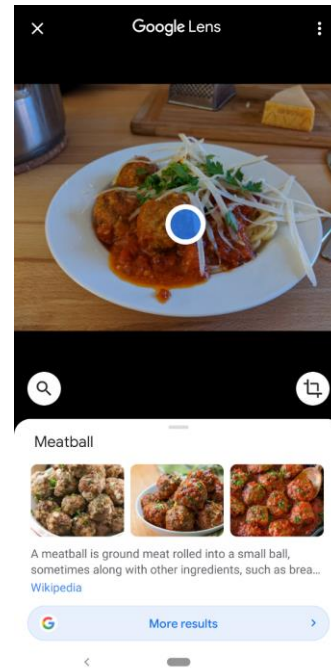
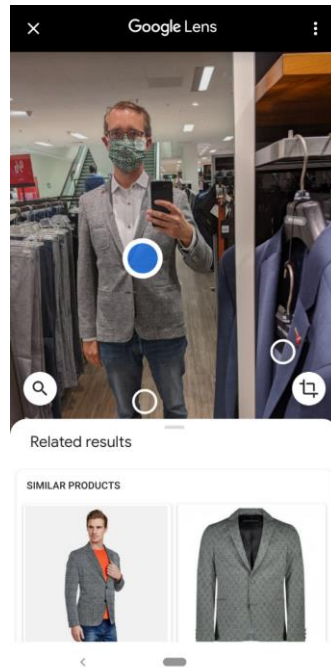
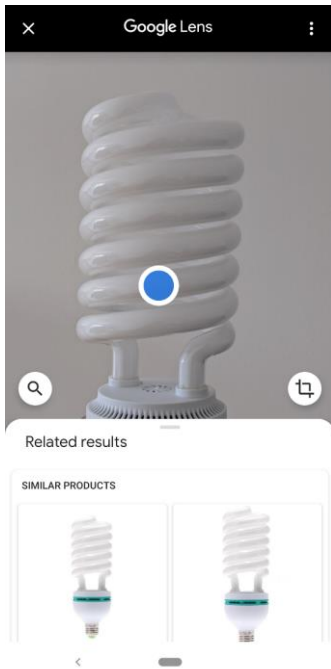
Maulsby, D., Greenberg, S., & Mander, R. (1993). Prototyping an intelligent agent through Wizard of Oz. In Proceedings of the INTERACT'93 and CHI'93 conference on Human factors in computing systems.

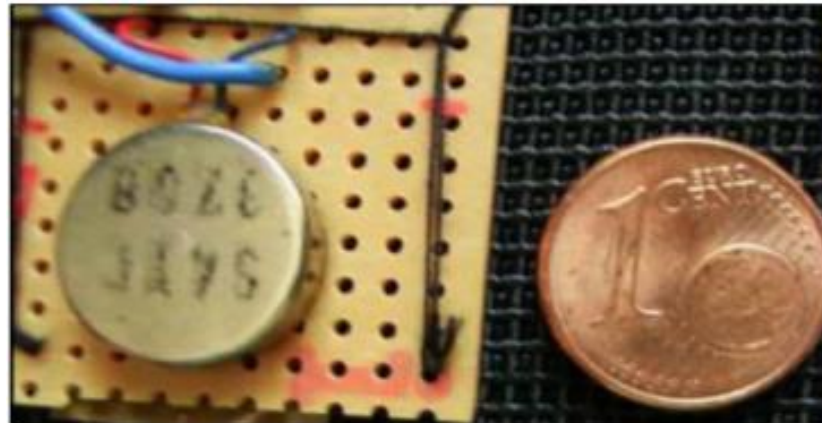
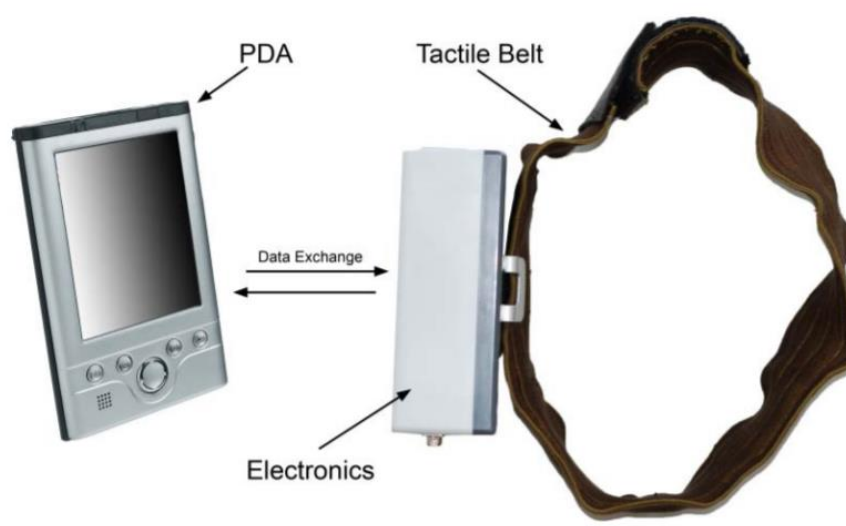
Engraving from the book: Freiherr Joseph Friedrich zu Racknitz, Ueber den Schachspieler des Herrn von Kempelen, Leipzig und Dresden 1789.

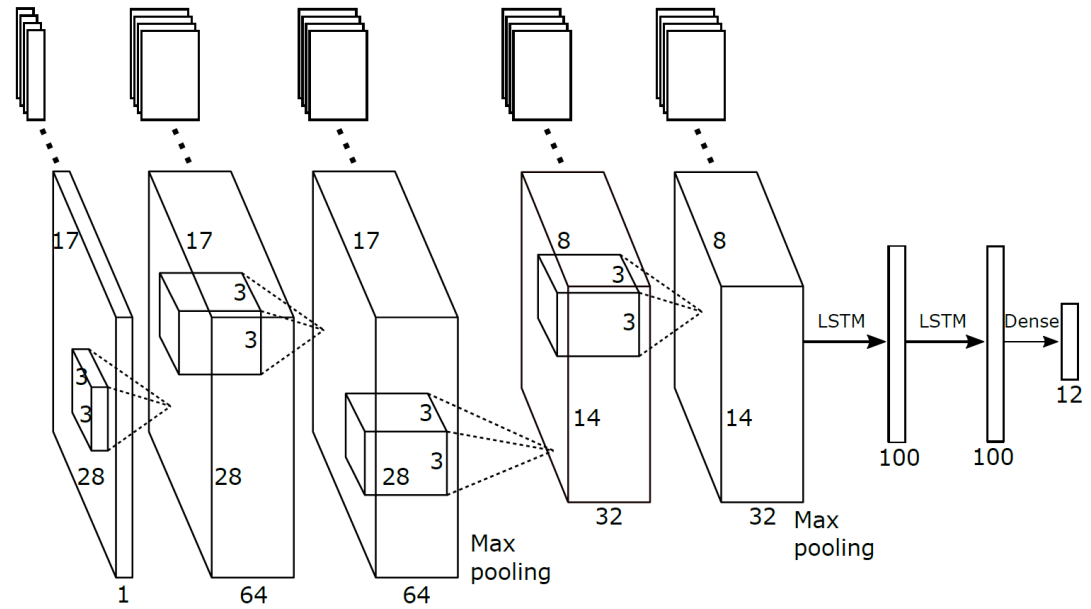
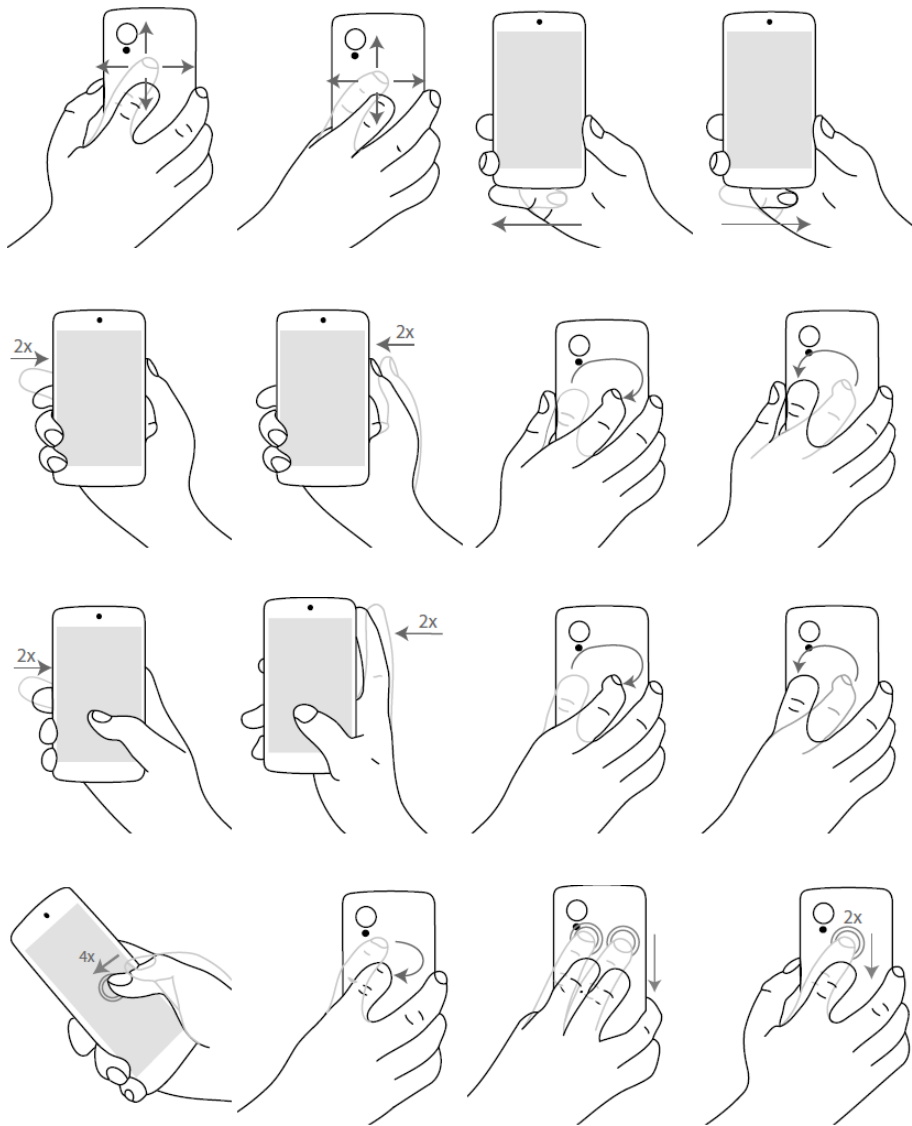




Henze, N., Schinke, T., & Boll, S. (2009). What is that? object recognition from natural features on a mobile phone. In *MIRW*.







Le, H. V., Mayer, S., Weiß, M., Vogelsang, J., Weingärtner, H., & Henze, N. (2020). Shortcut Gestures for Mobile Text Editing on Fully Touch Sensitive Smartphones. In ToCHI.

# A Wizard for Gesture Recognition

- Assess shortcut gestures with the 'perfect' gesture recognizer
- Participants performed the gestures as they would do with the real system
- Operator monitored participants and activated the respective functions on a second device

# Advantages and Disadvantages

- Wizard of Oz
  - Implemented only the „soft“ part
  - Using human operators for the hard parts
- Advantages
  - Receive early feedback
  - Compare with alternatives
- Disadvantages
  - Even implementing the soft parts requires effort
  - Unclear if operator's performance can ever be reached
  - Performance depends on the operator

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