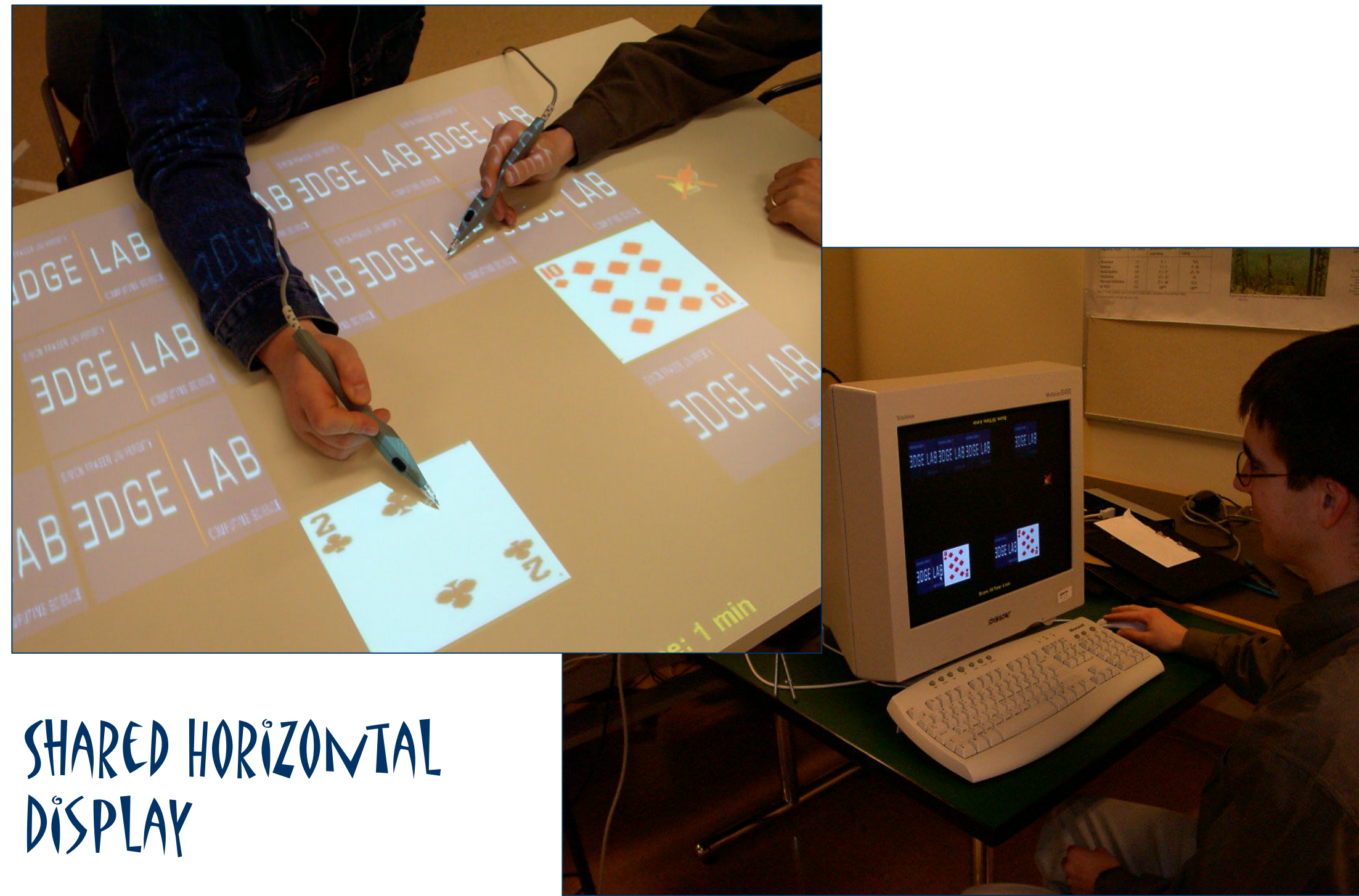


# USER PROFILING AT AN INTERACTIVE TABLETOP DISPLAY

MARK S. HANCOCK AND COLIN SWINDELLS



SHARED HORIZONTAL DISPLAY

VS.

SINGLE-USER VERTICAL DISPLAY

## PROBLEM

Tabletop computers are useful because multiple users can...

- ✗ Interact with a single display
- ✗ Come and go freely
- ✗ Switch positions around the table
- ✗ Place their arms and objects on the table

BUT

Menus, text and other interface components must appear oriented properly and be viewable to all of the users

## SOLUTION

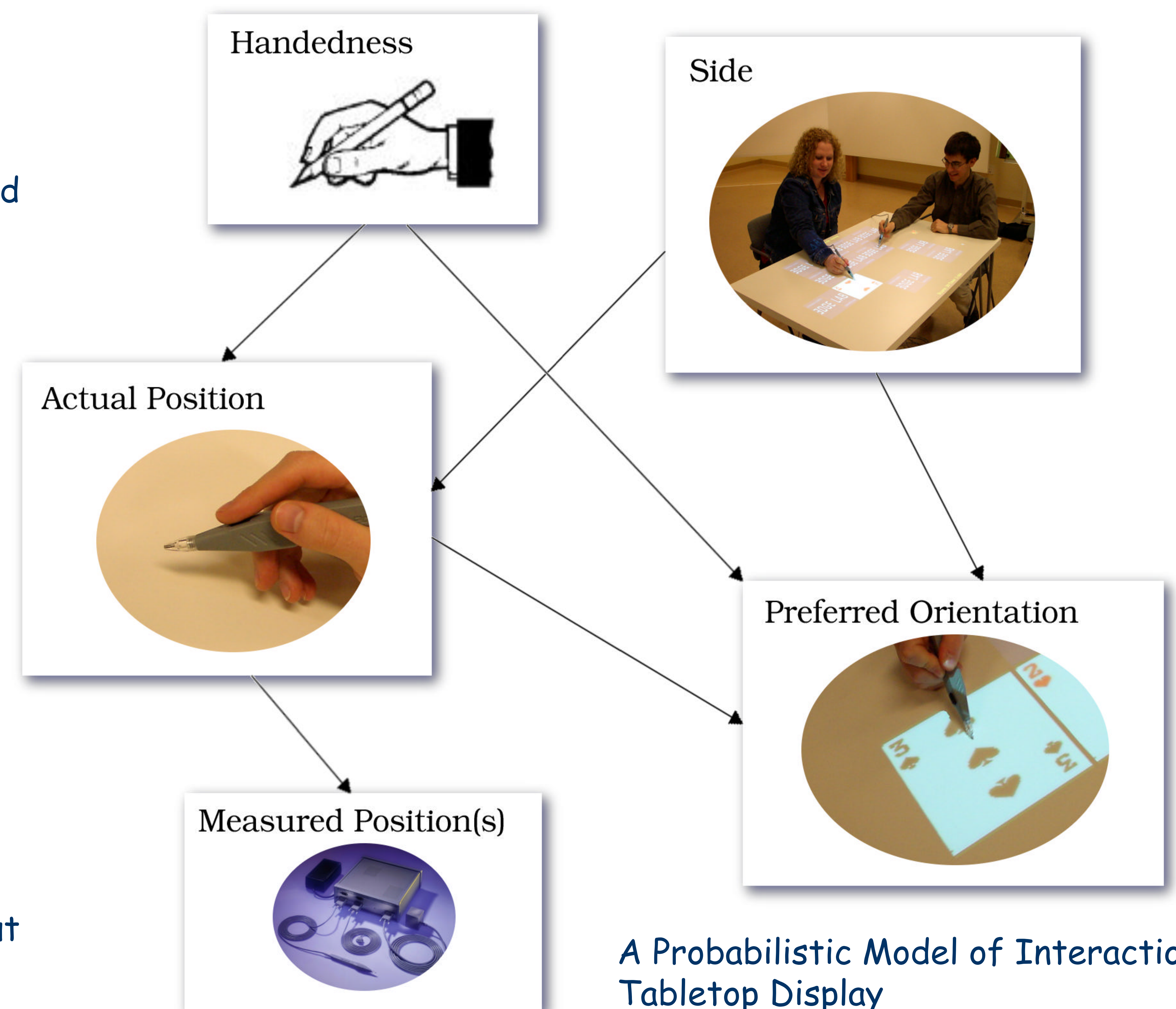
- ✗ Utilize user profile information to help determine the "best" location and orientation of on-screen objects
- ✗ Use a probabilistic model to extract the user profiles

## MODEL CONSTRUCTION

- ✗ Collect empirical data from real users
- ✗ Use known causal relationships in combination with empirical data to predict appropriate object placement
- ✗ Include information about all users in the environment

## MODEL PROPERTIES

- ✗ The more knowledge that is present to the system, the better it can predict how to present information
- ✗ The same model can be used to correct errors made by the system about a user's intended action



A Probabilistic Model of Interaction at a Tabletop Display