

User-Adaptive Deskwork Support System (Dr. M.Sugi, Prof. J.Ota, and Prof. T. Arai)

In our daily life, people typically spend a significant amount of time at their desks. Therefore, supporting individuals who work at desks by using an intelligent robotic system could have a great deal of benefit. We have proposed “Attentive Workbench (AWB),” a deskwork support system that helps a user from both physical and informational viewpoints.

The objective of this study is to realize a support system that delivers necessary objects to a user based on user’s pointing gestures (Fig.1). To meet this end, the system must estimate the target.

In this study, we adopt following three approaches:

- (1) Estimating the user’s subjective pointing directions based on a linear model using the user’s finger directions (Fig.2).
- (2) Integrating sensory information obtained from the user’s pointing gestures and contextual information as the user’s action sequences.
- (3) Arranging the target candidates as appropriate according to the user’s characteristics.

The system can estimate the target object appropriately based on the user’s pointing gesture by integrating these approaches (Fig.3).

Keywords: Attentive Workbench (AWB), pointing gesture, epistemic action

References

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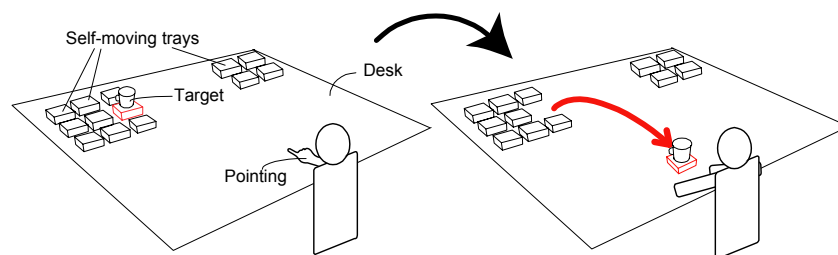


Fig.1 Overview of deskwork support with self-moving trays

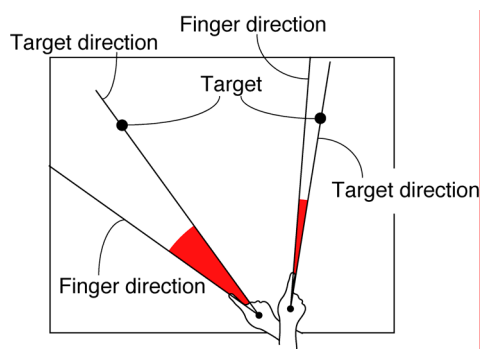


Fig.2 Relation between target direction and finger direction

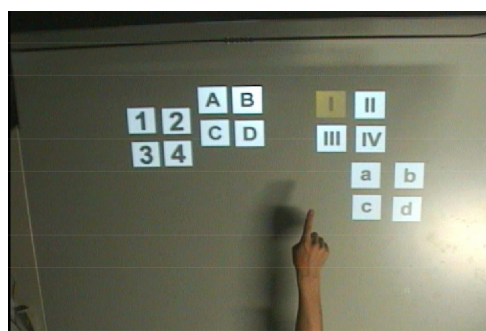


Fig.3 Target estimation based on pointing gesture