

# The Haptic Tabletop Puck

Tabletop 2009 Demonstration Supplement

## PART I

### ABSTRACT FOR THE CONFERENCE PROGRAM

**Title:**

**The Haptic Tabletop Puck**

**Project Description (3-5 Sentences):**

We present the Haptic Tabletop Puck – a simple and inexpensive device that provides dynamic, interactive haptic feedback for tabletop interaction. In this demonstration, people can explore several applications that incorporate tactile feedback in the area of haptic information visualization, haptic graphical interfaces, and computer supported collaboration. In particular, we illustrate how a person may interact with the friction, height, texture and malleability of digital objects on a digital tabletop.

## PART II

### ENVISIONED INTERACTION

Our hands-on demonstration will allow people to interactively explore the Haptic Tabletop Puck with a variety of applications running on the Microsoft Surface.

#### **Applications**

Visitors of the demo can explore the Haptic Tabletop Puck in action. We have a collection of various applications (selectable from a main menu) that allow us to illustrate the usage of height, friction, and malleability on interactive tabletops. Applications include:

- Tactile exploration (photos, patterns, textures, etc.)
- Geographical map exploration
- Material exploration
- Friction feedback
- Exploring hidden information in paintings
- Haptic feedback for drawing
- Oscillation
- Haptics with GUI widgets
- Collaborative applications (e.g., floor planning example)

## **Hardware**

Besides exploring the applications, we also show details of the inner workings of the Haptic Tabletop Puck. This includes the construction, the used materials, types of servo motors, etc.

## **TECHNICAL REQUIREMENTS**

### 1. ACOUSTIC/AUDIO REQUIREMENTS

n/a

### 2. LIGHTING REQUIREMENTS

Dimmed indoor light; please not too bright so that the screen of the Microsoft Surface is visible.

### 3. SPECIAL TIME/PLACE REQUIREMENTS

We need:

- one regular table (around the size of 70x120cm or 80x80cm)
- 4-5 chairs
- around 3 x 3 meter space for the Microsoft Surface, the table, and the chairs.

### 4. SPECIAL COMPUTER REQUIREMENTS

n/a

### 5. NETWORKING REQUIREMENTS

n/a

### 6. POWER REQUIREMENTS

We need power for the Microsoft Surface and an external monitor. We can provide our own power bar to split the power between the devices.