

# Direct manipulation technique by pressure and contact size

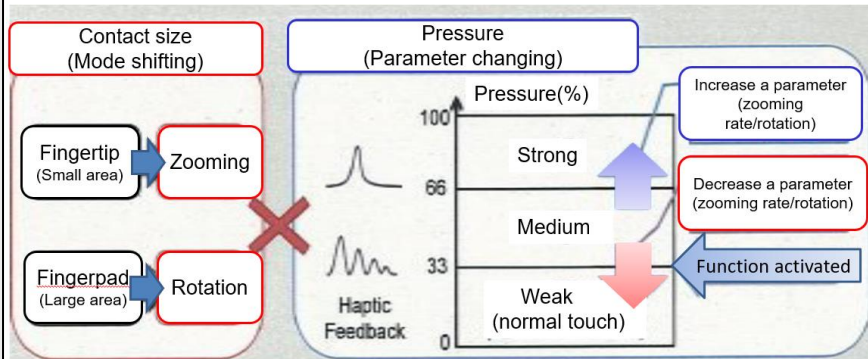
Single-handed operation of a smart phone is achieved!

## Introduction

Single-handed operation of a smart phone is always difficult because the multi-touch gestures require one hand, and the other hand is needed to hold the phone itself. This invention provides a novel direct manipulation technique for single-handed and multiple-tasked operations by monitoring the combination of pressure and contact size of a finger when a user is touching on the touch surface.

## Method

To divide the contact size as 2 parts and the pressure as 3 parts, and then multi-touch gestures can be described as this figure:

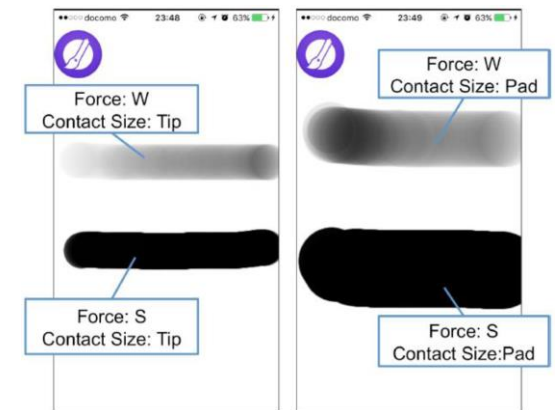


One finger gestures can be presented 2 × 3 as shown above. To divide the contact size and pressure into more partitions within a certain limitation is also possible.

## Effect



Zooming & rotation by one hand



Continuous values of pressure and contact size are corresponding to the writing pressure and pen width. Thus this technique is suitable for drawing or character study applications.

## Patent Data Sheet

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