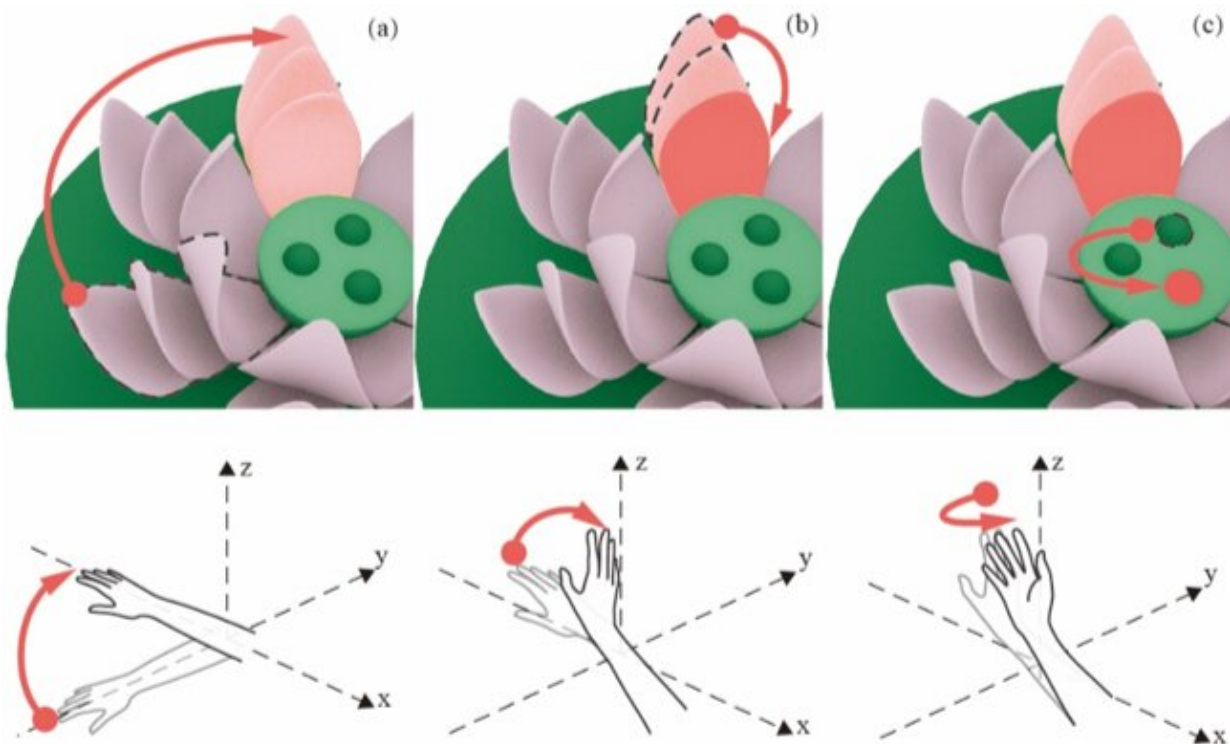


Amazing integration of technology and art: A 3D LotusMenu in your palm

April 6 2021



Interactive gestures of LoutsMenu (a) Rolling gesture; (b) Pitching gesture; (c) Yawing gesture. Credit: Science China Press

A recent study by Associate Professor Lu Fei's human-computer interaction research team from Beijing University of Posts and Telecommunications has proposed a three-dimensiona menu that can

"bloom in the palm."

The [research paper](#) is titled "LotusMenu: A 3D Menu using Wrist and Elbow Rotation Inspired by Chinese Traditional Symbol," published in *Science China Information Sciences*. Based on the metaphor of the traditional lotus pattern, the researchers proposed a 3D LotusMenu that uses the rotational motion of wrist and elbow to control the menu selection.

In the design of this interactive technology, the researchers corresponded the shape of the lotus to the 3D rotation [gesture](#): Mapping the selection of circular petal groups to the rolling gesture of the elbow (Figure 1(a)), the selection of layered petals to the pitching gesture of the wrist (Figure 1(b)), and the selection of circular lotus seeds to the yawing gesture of the wrist (Figure 1(c)). During the interaction, there is almost no shoulder movement, so that the gesture can be easily performed within a small range of motion. In addition, the rotation of the [wrist](#) and arm is merged as much as possible, further reducing the fatigue caused by gestures.

In the experiment, the researchers compared the user performance of LotusMenu and traditional linear menus. The results show that LotusMenu can significantly reduce the completion time of the [selection](#) task with less fatigue. This result can expand the application of 3D rotating gestures in [human-computer interactions](#), and has significant reference value for the future application of 3D rotating of interactive components in large-screen interactive systems and virtual reality systems.

More information: Fei Lyu et al, LotusMenu: a 3D menu using wrist and elbow rotation inspired by Chinese traditional symbol, *Science China Information Sciences* (2021). [DOI: 10.1007/s11432-020-2999-y](https://doi.org/10.1007/s11432-020-2999-y)

Provided by Science China Press

Citation: Amazing integration of technology and art: A 3D LotusMenu in your palm (2021, April 6) retrieved 30 April 2024 from

<https://techxplore.com/news/2021-04-amazing-technology-art-3d-lotusmenu.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.