

# Interactive Clock

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## Description

*Interactive Clock* is an app that displays a modified digital clock in full screen, interacting with viewers detected by a webcam. The app is written in Python and can be bundled into an executable file. For now, the preparation of the executable file is ready for Mac OS only.

This app was designed for the art exhibition of Xiaojun Song at the United Art Museum in Wuhan, China. Details for the exhibition can be found below.



可见，不可见 *Ke Jian, Bu Ke Jian*, Xiaojun Song's solo exhibition, 24.05–24.08.2019

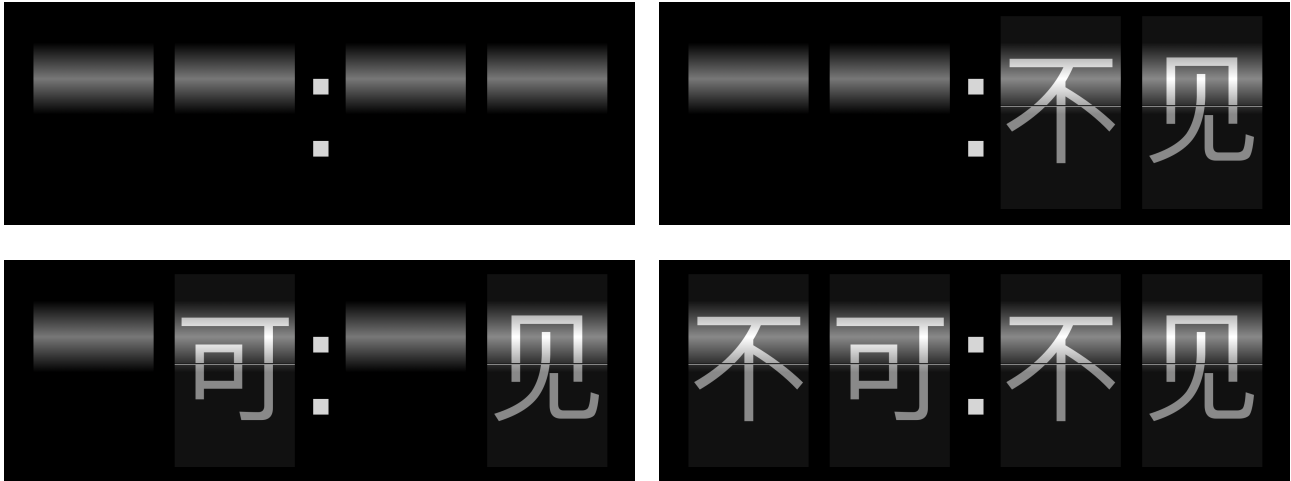
<http://www.whuam.com/#/show/detail?id=2cb86e56-83b0-47b6-8159-2d260147ee34>

宋晓君 Xiaojun Song — [xiaojunsong.net](http://xiaojunsong.net)

合美术馆 United Art Museum — [whuam.com](http://whuam.com)

## Design

The app opens a new window in full screen with a digital clock on a black background. The clock layout is designed as follows, where hours and minutes in the format HH:MM are replaced by the characters 不可: 不见 (bu ke : bu jian).



The clock interacts with the presence of people looking at the computer and detected by the webcam (the program actually uses the face detection algorithm from the OpenCV library).

When nobody is facing the computer screen, the following sequence is repeated:

□□: 不见      不可: □见      □□: □□

When one person is detected, the sequence changes to:

□□: □见      □可: □见      □□: □□

And if more than two persons are detected, it is now turned into:

□□: □见      □可: □见      不可: 不见      □可: 不见      □□: □□

The program goes back to the initial sequence once everybody goes out of the webcam range. The program window can be closed at any time by pressing any key on the keyboard.

## Requirements

The app can be run on any computer connected to a webcam. Ideally, the app should be run on an iMac, which ensures a clean design with its integrated webcam.

Running the app from the source file requires the installation of Python 3 with the libraries OpenCV, numpy, tkinter 8.6, PIL (Pillow) and graphics.

Running the app from a standalone executable file does not require any installation. For now, bundling the app into an executable file is only available for Mac OS.

## Contributions

Initial concept & design review: Xiaojun Song

Design & realization: Guilhem Mariotte