

# A stereo camera and mini-projector for video communication in cell-phone calls

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**Abstract** - A novel cost-effective video communication technology for cell phones using mini-projector and stereo-camera has been introduced. In our proposed technique a virtual screen is created by displaying an image or video. And using the displayed images it is possible to interact with the virtual screen. To demonstrate the capability of our proposed technique, we have displayed dialling numbers to make a phone call. Where dialling numbers are displayed by the mini - project and using these dial-in numbers it is possible to dial the destination number and accomplish a call. To press a given number the finger point should stay over the displayed number till the finger point is detected. For detecting which number has been pressed first the captured images are converted to binary image and then finger detection is done using edge detection algorithm. The stereo camera and mini-projector can be mounted on top of a vision glass. The proposed technique uses a flexible display for projecting the dial-pad for cell-phone calls. Hence, the virtual screen is created by the mini - projector, where dial-up is accomplished by pressing the numbers on the virtual screen.

**Keywords**— stereo camera and projector, cell phone dial, distance estimation, virtual screen



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