Mobile Phone for Soldiers

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The mobile phone is designed for soldiers. In the future, the battle would take place in a large geographic area and the soldier needs a mobile phone to communicate with his comrades in arms at anytime. In addition, the soldier needs both audio and visual information at the same time to make a quick decision. So the most important feature of our mobile phone is its capability of delivering audio and visual information at the same time. The figure 1 shows the scenario of the design.

Figure 1. The scenario of the proposed mobile phone. The mobile phone can delivery both visual and audio information at the same time. In this example, the military headquarter sends the visual information to the soldiers via the mobile phone.
Considering the efficiency, we design only one button on this mobile phone. When a call is coming, the earphones will play a specific sound. This button allows soldiers to choose whether to answer the phone. If he wants to answer it, he just needs to presses the button very quickly. If he wants to deny the call, he needs to press the button for one second.

The proposed mobile phone includes two answering models: audio model and audio & visual model. The default answering model is audio model. If the soldier also wants to receive the visual information, he needs to press the control button quickly (less than one second) while answering the phone. Also, if he wants to switch back to audio model, he just needs to press the button again. In addition, he can stop the call at any time by pressing the button for more than one second. The process is shown in figure 2.

![Diagram of phone call process](attachment:image.png)

Figure 2. The process of the getting a phone call.
If the soldier wants to make a phone call, he firstly presses the control button, and then the eye tracking system embedded in the glasses starts to work. The soldier can use his eyes to choose which person he wants to call. For example, in the figure 3, the eye tracking system finds the soldier is looking at the person on his right hand and display a green circle on the glasses. If the soldier looks at that circle for more than one second, the mobile phone will call that person automatically. Also, when the green circle is shown, the soldier can directly press the control button on the glasses and the mobile phone will call that person immediately (the figure 4 shows the process of making a phone call). Moreover, the soldier can defines some icons like shortcuts, for example, the “H” means Headquarter, if he wants to call the military headquarter, he just needs to look at the “H” icon and call the headquarter directly.

Figure 3. The soldier can use his eyes to make a phone call.

Figure 4. The process of making a phone call.