

## Georgia Tech "Michael" Team Solution - Quad



Image: Front, back, and 3/4 views of touchscreen smartphone with angled corners

Quad is a touchscreen smartphone designed for equitable, flexible, and intuitive use. The combination of visual, haptic and auditory feedback allows the phone to be usable by a large user demographic, with multiple abilities.

The user interface is based on a quadrant grid. The quadrant grid interface allows for a simplified and manageable amount of information. The notification system is rippled through the screen interface and the four corner buttons, all of which correspond with a potent haptic feedback system.

### Persona Michael:

Michael is a 16 year old student who sustained a brain injury from a car accident. He has significant hearing loss that now seems permanent, but his difficulties with memory, attention, and completing complex tasks are easing somewhat. It's unknown whether and when he might improve further.

In the controlled environment of home, Michael is fairly independent, but sometimes even simple, familiar tasks are challenging. His parents worry about his abilities to handle large and busy public locations where he's spending more time with his friends. They realize that Michael needs to learn how to handle situations like these on his own. Last year, Michael's parents bought him a smartphone, hoping it might help him use public transportation and navigate around the community on his own. But maps and transportation schedules are meaningless to Michael when he forgets why and where he is going.

Since his poor hearing makes voice communication very difficult over the phone, Michael has found texting the most practical way to keep in touch with friends. However, his parents' older phones make texting laborious for them, and they'd prefer to just talk with him. Michael often returns home with several unanswered voicemail messages and ignored reminders. His parents find themselves transcribing these messages and leaving them on Post-It notes in his room, an old technique they'd hoped to leave behind.

Michael also sometimes misplaces his phone, leaving his parents to worry why they can't reach him. They have had to replace the phone twice so far, and they're wondering if having an expensive smartphone and monthly service is a waste.

Internet capability and location awareness are becoming common in wireless telecommunication devices. Attending to and managing the steady stream of information to and from these devices can be challenging to any user. Young parents juggling family and job responsibilities, working students, and workers taking advantage of flexible schedule and workplace options, the benefits and challenges of wireless technologies are not so different from those facing people with cognitive limitations like Michael.



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