Lifeline: Remote Monitoring and Troubleshooting System for Caregivers of People with Disabilities

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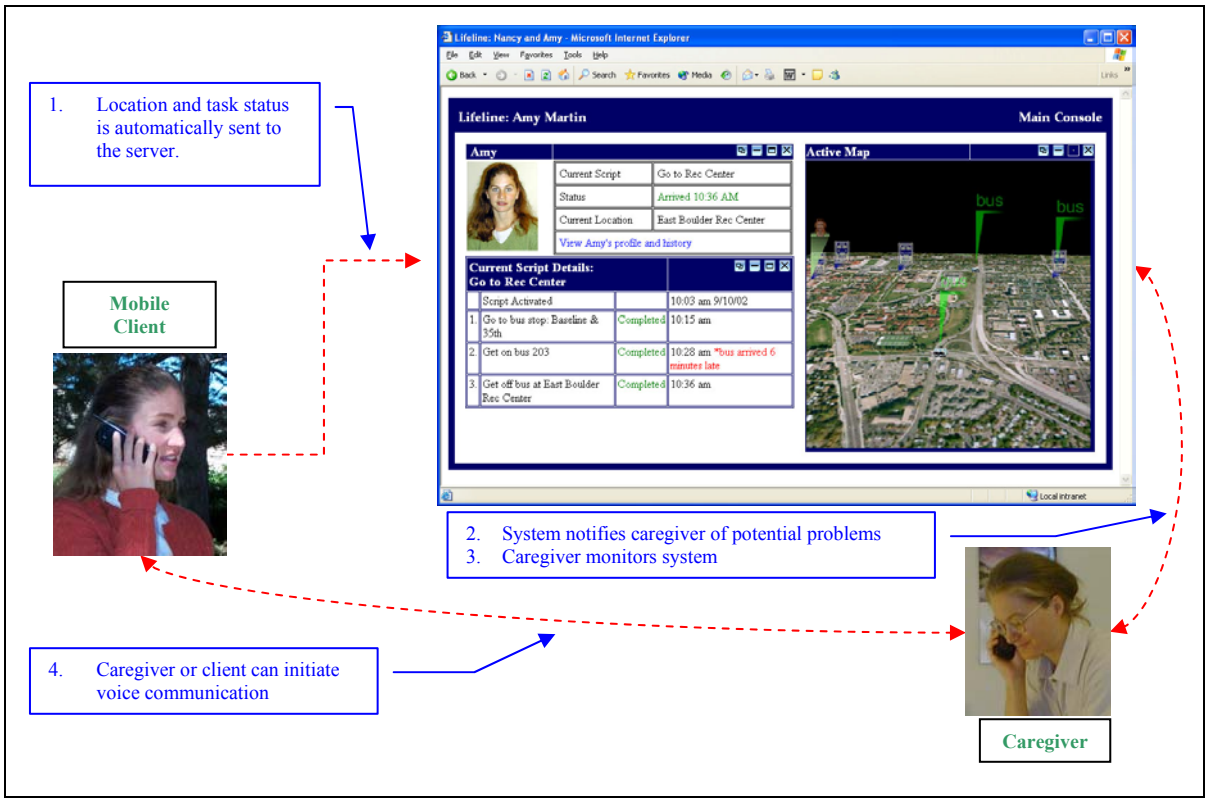
Lifeline is a Cognitive Levers research project supported by the Coleman Initiative.

Overview: *The goal of the Lifeline project is to give caregivers the ability to monitor and provide personalized assistance to people with disabilities who are using wireless personal task prompting systems.*

Motivation: People with disabilities who use assistive technology devices that enable greater mobility and autonomy experience new levels of freedom. However, with this freedom comes increased danger as new and unfamiliar environments are explored. To address this issue we are developing Lifeline: a support system that provides the vital tether needed between the client and caregiver.

Key features:

- Caregivers will see an active map of the client's immediate surroundings which is regularly updated with real-time location information. This will allow caregivers to see exactly where the client is located in case help needs to be dispatched.
- Caregivers will see the task steps in which the client is engaged and when each step is completed.
- If a client deviates from their task by exceeding time or location constraints, the caregiver is notified.
- Historical records of caregiver interventions are saved so that the future problems can be prevented or more quickly resolved. This will aid new caregivers who are less familiar with the client.



Research Issues and Future Work:

- We are currently in reviewing our prototype with caregivers and working to better understand their current monitoring and problem resolution tasks.
- A failsafe architecture for remote task monitoring which can work effectively in a low bandwidth and unreliable wireless networking environment needs to be developed.
- Privacy and security issues involved with remote monitoring need to be explored. It is of paramount importance that clients are protected from potential predators while their privacy rights are respected.