

Components required

GPS module, micro controller, connectivity, mapping software, safety sensors, IoT connectivity, Accessibility Features, data storage

GPS Module:

A GPS module is essential to determine the wheelchair's location. Choose a reliable GPS module with good accuracy and real-time tracking capabilities.

Microcontroller:

Use a microcontroller (e.g., Arduino, Raspberry Pi) to process GPS data, control the system, and provide a user interface. You can program it to interact with various sensors and devices.

Connectivity:

Add connectivity options like Bluetooth or Wi-Fi for data transmission and remote monitoring. This allows caregivers or family members to track the user's location.

Mapping Software:

Integrate mapping and navigation software (e.g., Google Maps API) for route planning, real-time directions, and location-based services.

Safety Sensors:

Implement safety features like obstacle detection and avoidance using sensors (e.g., ultrasonic sensors or LiDAR) to help prevent accidents.

IoT Connectivity:

If needed, you can make the system IoT-ready to allow remote management and updates.

Accessibility Features:

Ensure the system is accessible to the specific needs of the disabled user. This might include adaptive controls, large buttons, or voice-assisted navigation.

Data Storage:

Include a storage solution (e.g., an SD card) for recording location history and other relevant data.

