

REMOTE CONTROLLED WHEELCHAIR

TEAM S

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Solium

Remote Controlled Wheelchair

Overview



- Severely handicapped children cannot control their own wheelchair
 - Children often hate the feeling of being pushed
 - Design a system in which an assistant could control it without pushing from behind
- Remotely controlling the wheelchair
 - How to control it was the difficult aspect
 - Analog controls through a wireless connection
 - Programs are written for internet-capable phones or laptops

Wheelchair System Description



□ Objectives

- Create a very simple user interface
- Make the product universally applicable to existing electric wheelchairs
- Allow for access to the controls and camera from over the internet
- Fulfill all of the different mode requests of the therapists
- Our number one concern was safety

Safety Features



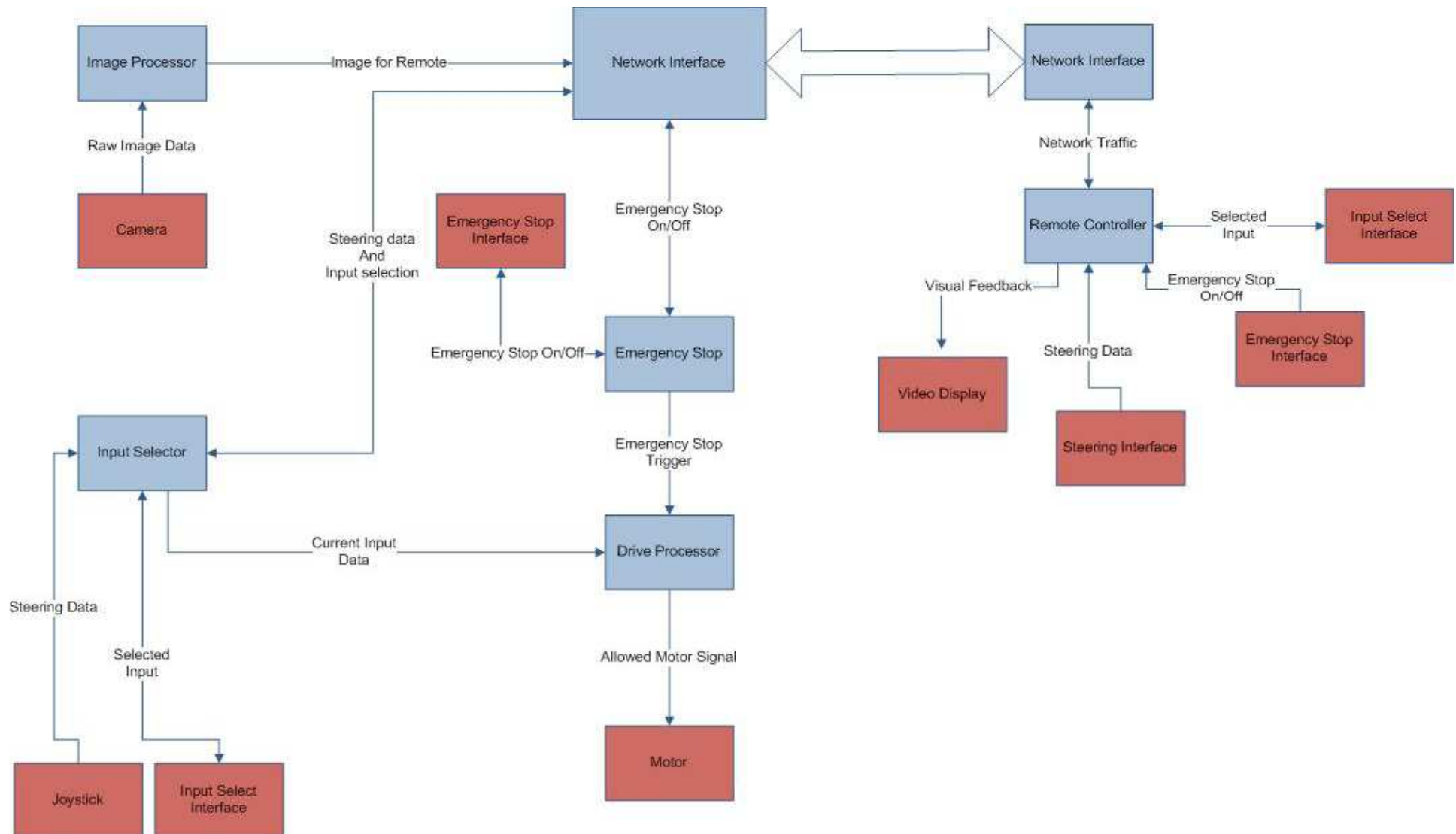
- Proximity sensors
- Emergency stop buttons on both wheelchair and remote
- Wheelchair stops automatically if connection is lost
- Extra restraining device
- Camera view on controller to ensure where the wheelchair is headed
- Camera also mounted on the chair itself

Cost



- System delivered as an add-on to reduce cost substantially
- Cost per unit is expected to be \$1000
 - ▣ Embedded Computer System: \$300
 - ▣ Hardware Interface - \$50
 - ▣ Camera - \$50
 - ▣ Proximity Sensors - \$200
 - ▣ Software and installation- \$400

Integration Thread



Demo





Any Questions?



Thank you for your cooperation