

SMART rehabilitation: developing accelerometry technology to facilitate remote stroke rehabilitation

*(Using technology to provide
feedback about performance
during rehabilitation)*

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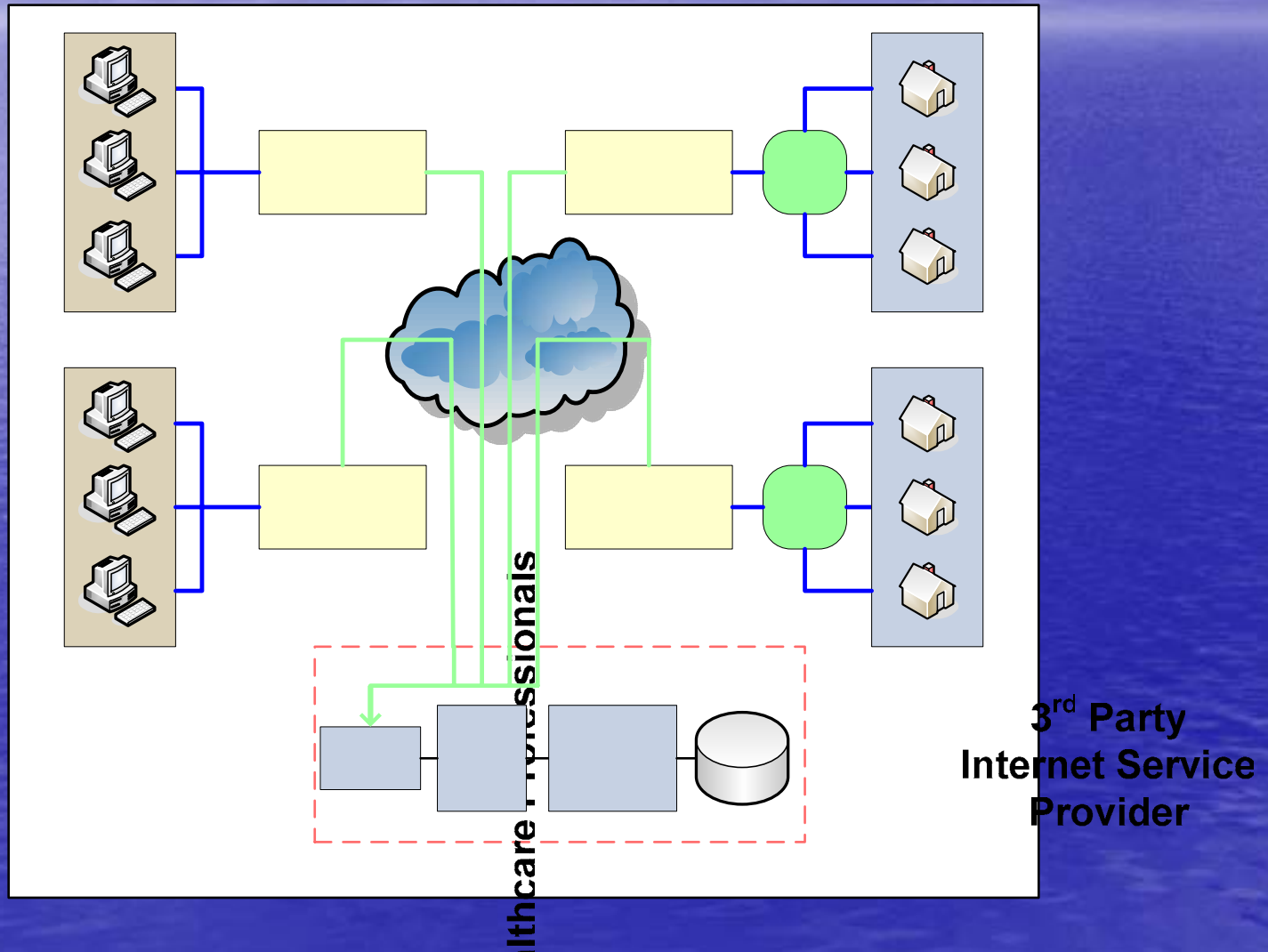
Current Rehabilitation Systems

- Provides analysis tools/interface for professionals
 - Stick diagram
 - Kinematics and kinetics analysis
- Lack of visual feedback for patients and their carers

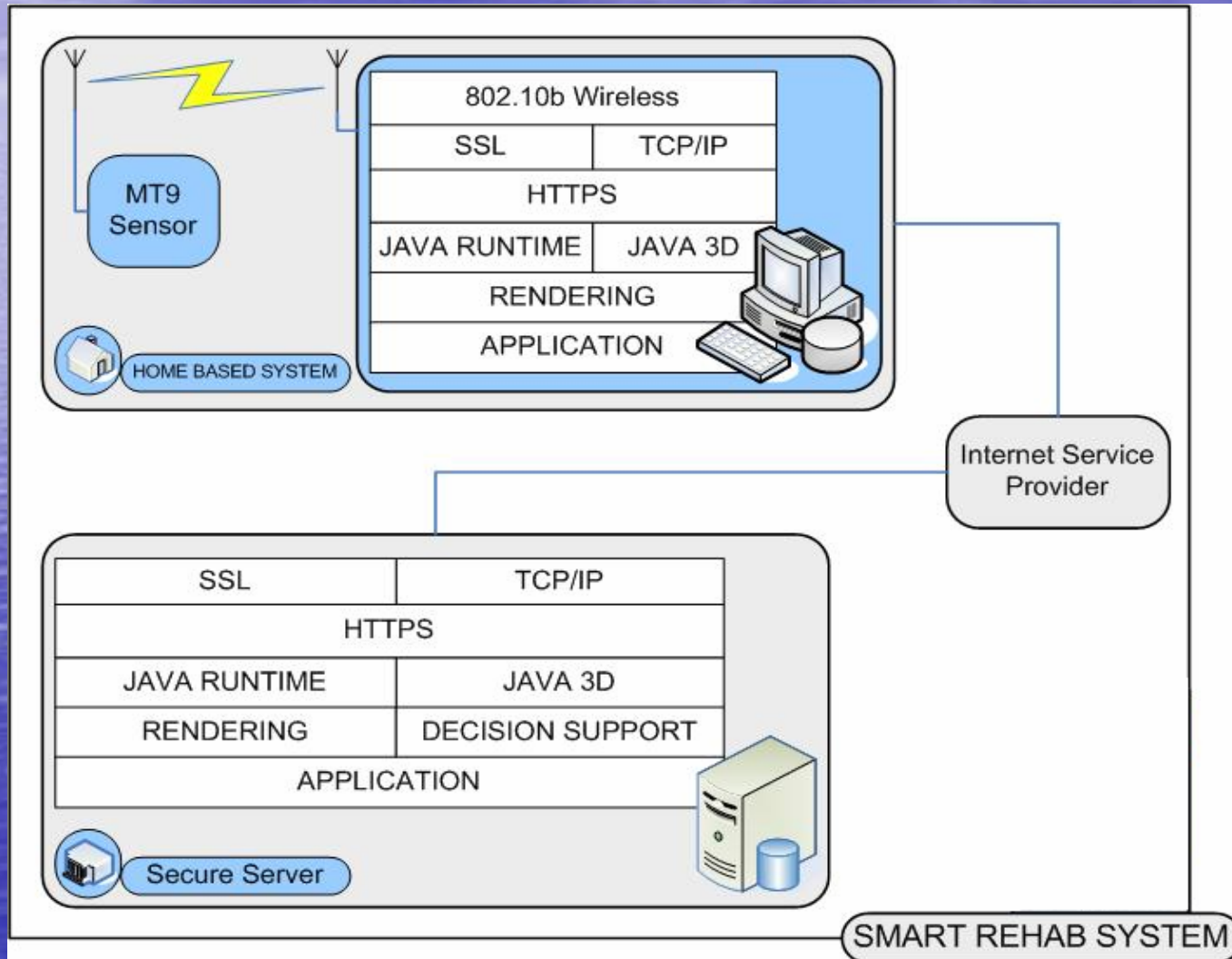
Design targets

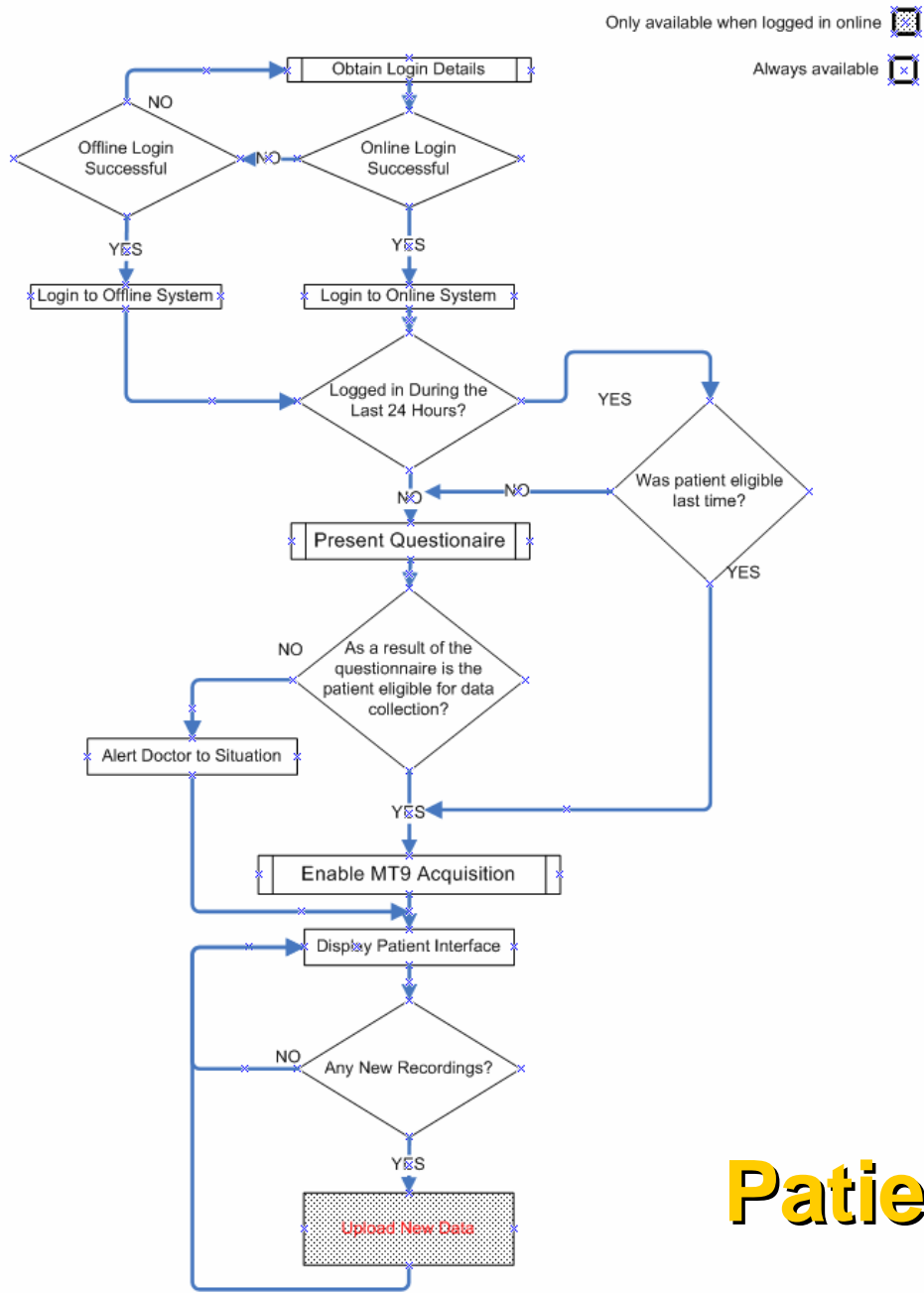
- User defined
 - Professionals
 - Patients / carers
- User interactive interface
 - Information
 - Patient information, including
 - personal information, history, movement data, questions/queries
 - Professional comments
 - Presentation
 - 3D visual feedback
 - Communication tools for making comments, discussion
- Sub-systems
 - Home-based monitoring system
 - Web-based monitoring system

Infrastructure of home-based rehabilitation system



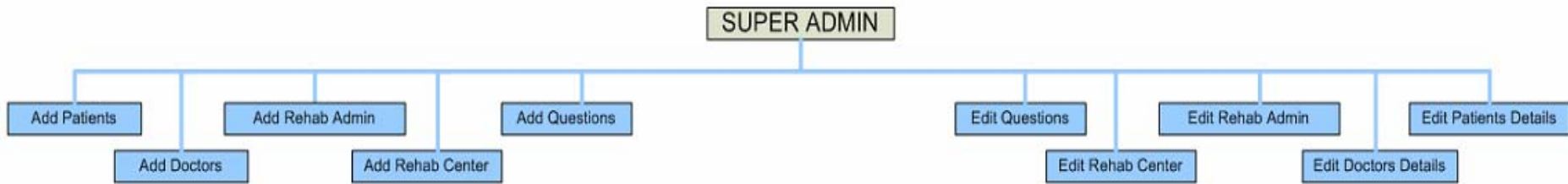
Home-based system





Patient Interface Flow

SMART REHABILITATION USER HIERARCHY



REHAB CENTER ADMIN



Patient



Doctor



-  User
-  Features

On-screen interaction

The graphical user interface (GUI) consists of two elements:

1. 'visualisation' – the display of the arm, the movement...
 2. the control of the system.
- Demo of the home-based monitoring system
 - Demo of the web-based monitoring system (can be access at <http://193.61.149.35/smart/>, username and password can be arranged when request.)