Brain Injury Rehabilitation

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Abstract

Problem:

Thousands of people every day damage their brain resulting in permanent injury. This can be caused through a stroke, road traffic accident, an assault or sports injury. One of the many deficits that individuals will suffer from is cognitive deficits. External collaboration with Neuro psychologists UK Company was involved in requirements specification.

Objectives:

This project aims to develop an application to help people with defects train their cognitive abilities, through a list of visual exercises. The application should store a static set of different exercises. In each exercise user will be given a target object (it might be a word, colour or picture). It will be selected from the set of similar objects by programme, which will be also displayed to user as an option list. User should select right one, which matches to the target object. After finishing a session, application should return a result. There should be an option of either having a feedback box indicating right/wrong response. Before starting a session, there should be a training session in which their performance is fed back. In the training session user can make several tasks.

The programme is to be used at home with a help of therapist. Therapist may customize the programme depending on abilities of patient and track performance.

Methodology:

Java language was chosen to implement an application. Netbeans IDE was helpful to design a user interface of the programme.

Achievements:

All requirements, stated by specialist in neuro psychology, were fulfilled. The software has a user friendly interface, customizable in settings panel, performance tracking feature. Also it supports a demonstration, practice and training sessions. The software was tested on operation systems Windows XP, Windows 7. The installation file of complete programme was generated.