CENG492

User

Manual

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BiBER

June 15, 2011

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1. General Information

1.1. Scope of the Document

This document was prepared by the developer team of Mindolog, Biber. The scope is the assistance supply to the users of the product Mindolog, explaining how to use the main functions of this software, especially the game. Moreover, the manual describes the requirements in order to be capable of using the Brain Computer Interface Device and the product. This manual covers the software and hardware parts of our product and explains how to correlate them. It also explains system requirements, installation procedure and setup process of the system.

1.2. Contact Us

For the detailed information, you can contact to us through by e-mail:

    e-mail: mindolog@gmail.com

Or, you can visit our website for more information:

    Website: http://senior.ceng.metu.edu.tr/2011/biber/

2. Installation

2.1. System Requirements

- Emotiv Test Bench is required software. It is explained in the next section.
- PostgreSQL Database Management System is required. It is also explained in the next section.
- At least 256 MB graphics card is required.

2.2. Before Installation

Before the installation process, it is vital that Emotiv BCID works properly. Admin can use Emotiv Test Bench to make sure that the device is working as expected. This is a program to see data coming from the BCID, it controls whether the points that should give alpha/beta values is correctly placed on the users head. Moreover, it concurrently shows the incoming values of data. This test should also be conducted before each game playing session to get accurate results.

2.3. Setup

For the installation of the product, you just need to run the executable file given in the final package. During the process, in addition to the Mindolog, PostgreSQL Database Management System is also installed.

Important Note: In order to use the system, database and the tables must be created. Admin can create them with the script including database create and modification commands provided in the final package. Moreover, admin must create an account for himself through the database management system to login and use the system.

3. How to Use

3.1. System Functions

There are two types of users and their roles and *how-to*'s are listed below:

Admin/Psychologist: If you login the system with an admin account, there are four actions you can take:

- *Registration:* you can register new users by clicking the Registration button in the main menu and then filling the form including patient information.
- *Patients List:* List of patients can be seen. Updating and deleting patients are also controlled from here. After selecting the patient from the list, update button opens a new form; delete button simply deletes the selected patient.
- *Compare Patients:* Graphical comparison of users. You can select the patient(s) to be compared and then a chart shows the overall progress of the patient(s). From the tabs, comparison can be seen in session-by-session, daily or monthly manner.
- *Logout*

Patient: If you login the system with a patient account, there are three actions you can take:

- *Show My Data:* Like the *Compare Patients* function of the admin, this feature makes it possible to show the current user his overall progress in a graphical interface.
- *Play Game:* This part is explained in detail in the next section.
- *Logout*

3.2. The Game

After the user presses *Play Game* button on the main screen, an information screen opens and user can find the directives that should be used during the game.

User only uses left and right keys to move the car on the road. Then, for the first-time users, level 1 starts. This is a simple level lasts for 1 minute to receive the user's usual brain wave values. User just follows the letter A on the road.

For the next levels, user follows a character sequence shown at the bottom of the screen for 10 minutes. Length of the sequence is determined by the level number and when the user completes the sequence successfully; HIT number increases by 1, otherwise MISS number increases by 1. If the user completes the session with a HIT/MISS rate above %75, he passes to the next level.

When the user's attention decreases, which is determined by the received brain values, speed of the car increases. Likewise, if the attention increases, speed decreases. User should try to achieve the optimum attention level.

During the session; speed, hit and miss values are shown at the left of the screen. Concurrently, a dynamic graph shows the user's brain wave values. Moreover, at the end of the session, an info screen shows the HIT, MISS and the rate of these.

3.3. Troubleshooting

Our project is currently in the pre-beta phase. Therefore, facing with many bugs is quite possible. If you encounter a bug, the only advice we can offer is to simply avoid it and report the bug to mindolog@gmail.com and keep in touch with http://senior.ceng.metu.edu.tr/2011/biber/ as well.

June 15, 2011