

MEDB: A PORTABLE CLINICAL HISTORICAL DATABASE

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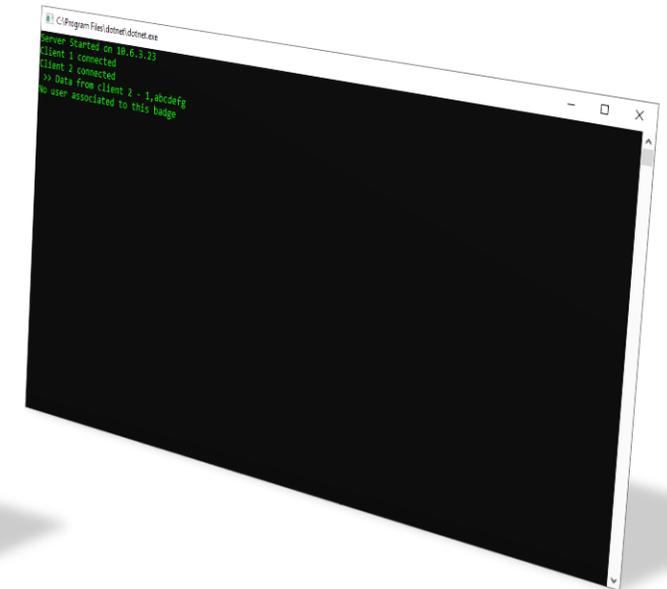
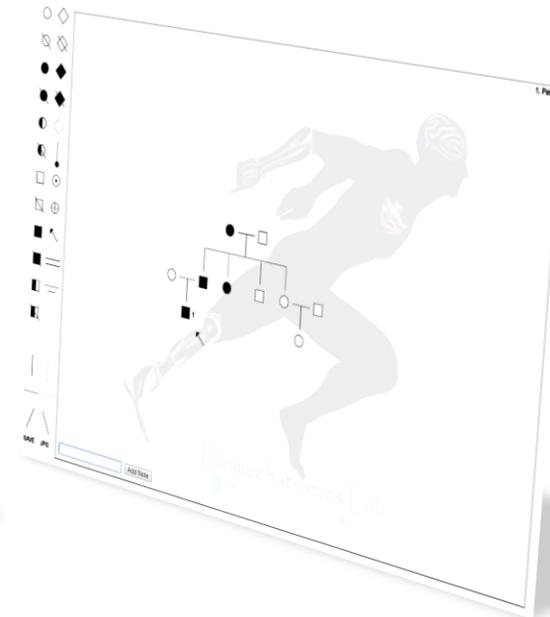
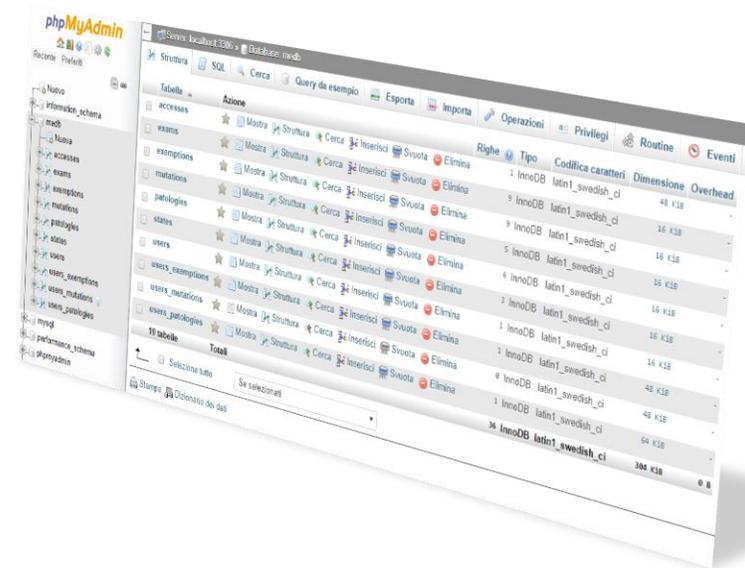
THREE MODULES: MySQL, PHP/C#, ARDUINO

- MySQL: powerful tool to store data and build relationship between them
- PHP: fast web programming language to build an user friendly web portal that visualize and edit data and relationship.
- C#: desktop programming language to build a server capable of dispatch request from Arduino and access the database.
- Arduino: microcontroller to read and write information from the USB badge.



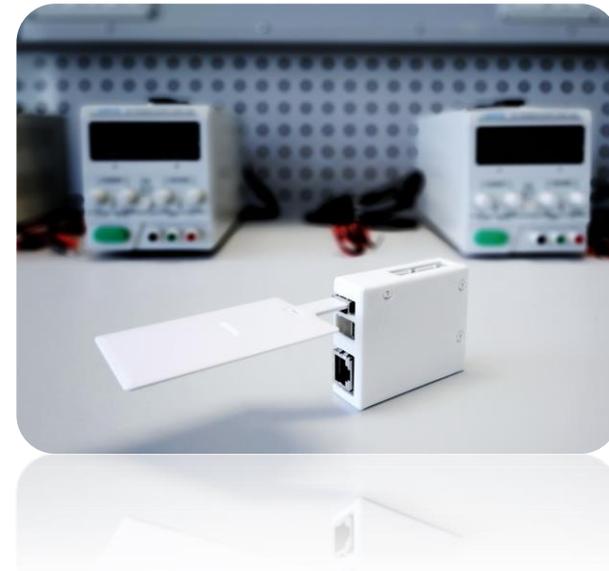
SOFTWARE: MYSQL, PHP AND C#

- MySql module uses 10 tables to map anagraphic and relationship such as: Pathologies, Mutations, Exemptions etc etc
- PhP module is used to built an easy to use web portal where Researchers, Medical Doctor and Patients can access, modify and visualize data on-the-fly. The web portal provide also an useful genetic pedigree editor that can save the model for a later use or export it as JPG.
- C# module is used to create a Server that run endlessly to receive information from the Hardware part of the system and save those information in the database.



HARDWARE: ARDUINO, USB BADGE

- Arduino Yún is utilized because of its built in Wi-Fi support and embedded USB port.
- Arduino Yún merges the power of a networked computer and a microcontroller.
- The USB badge with its “Serial Number” provides an useful way to uniquely identify an user.
- The USB badge gives the patient the ability to have a familiar device to bring his data always with him/her.



CONCLUSIONS & FUTURE DEVELOPMENT

- This system allow every medical structure to choose which subset of patient they want to gather data from.
- The patient can access every vital information about his medical history from everywhere even offline.
- This system is currently on a test run at “Center for rare disease” at IRCCS Neuromed. It will be later expanded at the whole clinics.
- In the future it could be started a National wide test.

