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# M-Lab System - A New Tool for Automation of Microbiological Data Collection, Analysis and Storage

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Poster No

## INTRODUCTION AND PURPOSE

World-wide and even in our department we have plenty of programs, databases and software's for microbiological data collection, analysis and storage. But majority of this products allow to solve only predetermined limited number of tasks. And what is more, very often one computer product unfit for dialling with the data form another product. That is why we need in new universal tool for automation of microbiological data collection analysis and storage.

## METHODS

### Software requirements

- ☛ Unix or Unix-like system (tested on Linux and FreeBSD)
- ☛ SQL server (PostgreSQL)
- ☛ HTTPD (Apache)
- ☛ Perl 5

### Hardware requirements

- ☛ ≥ 16 MB RAM
- ☛ ≥ 100 MB on HDD
- ☛ ≥ Intel 486SX-33
- ☛ Network ≥ 10 Mbit

## RESULTS

### Data collection

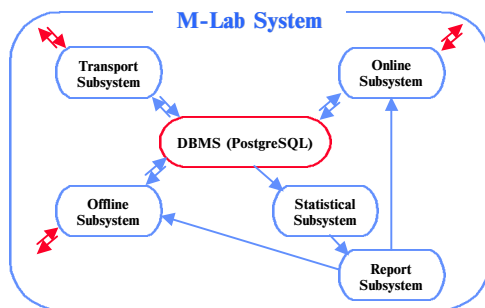
- ☛ From pre-existing sources of date
  - pre-defined: WHONet, BioMic etc.
  - user-defined: Excel, XBase, SQL servers
- ☛ Direct input
  - offline
  - online

### Data processing

- offline (Email)
- online (Web-Browser)
- pre-existing template
- low level request SQL

### Report System (Raw data)

↓  
 GNUPlot ..... TeX → Report (PostScript or PDF)



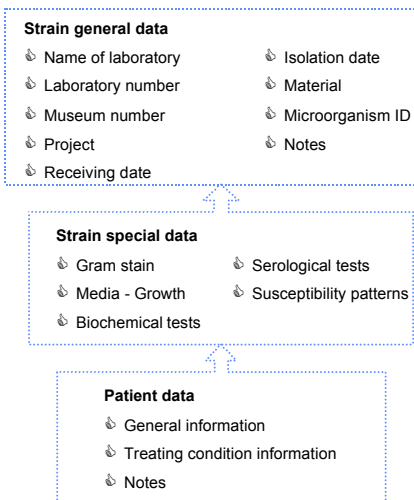
### Data Storage

There is two blocs of information linked to each other and distributed according to referent guides - on strains and on patients.

### Referent guides

- ☛ Countries
- ☛ Cites
- ☛ Laboratories
- ☛ Wards
- ☛ Diagnosis (based on KO-10)
- ☛ Projects
- ☛ List of drugs with abbreviations (based on ATC-Index)
- ☛ List of micro-organisms
- ☛ Materials
- ☛ Gram stain results
- ☛ List of media
- ☛ Biochemical tests (including API)
- ☛ Serological tests
- ☛ Methods
- ☛ Susceptibility map
- ☛ Collaborators

### Main data storage tables



## CONCLUSION

### M-Lab System is a new universal software that is capable to:

- ☛ collect practically any type of microbiological data from any pre-existing source of information or by direct input
- ☛ analyse any type of loaded microbiological information
- ☛ produce reports of any parameter requested, pre-defined by templates (e.g. MIC<sub>50</sub>, MIC<sub>90</sub>, MIC ranges etc.) or user defined