PASSI

Progressi delle Aziende Sanitarie per la Salute in Italia

The technological infrastructure of PASSI: an innovative system using free and open-source software, Italy 2007

Paolo Brunetti, Gabriele Dallago, Steno Fontanari, Stefano Menegon
MPA Solutions coop. a r.l., Trento

Background

- PASSI, the Italian behavioral risk factor surveillance system, will involve more than 180 local health units (LHU) and 20 regions
- A web-based infrastructure to collect, centralize and analyze a large amount of data is needed
- Because of technological heterogeneity among local health units and variable technical capacities among users, the infrastructure must be flexible, user-friendly, and independent of local hardware and software installations
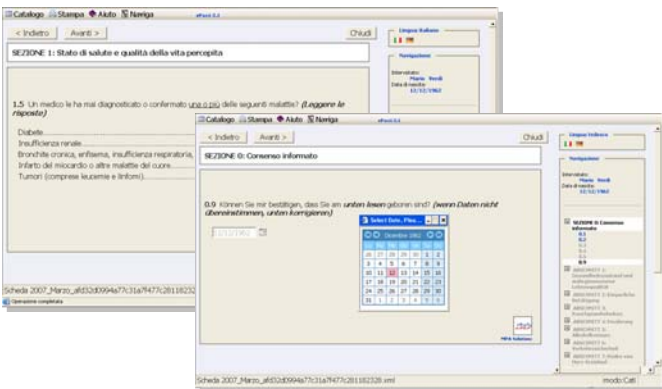
The goal

- Create an infrastructure that can serve the needs of:
    — interviewers doing CATI or data entry from paper questionnaires
    — coordinators at local, regional, and national level who must exchange information and monitor progress
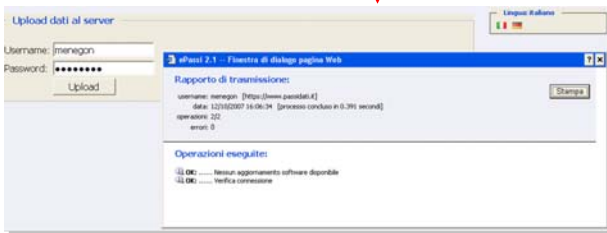   — interested stakeholders who want access to results

The solutions

- Develop a *smart client application* that uses a readily-available internet browser for:
    — stand-alone functions for data entry and real-time record saving (XML format) on interviewers' computers
    — interview tracking (assignment, current status)
    — CATI-like data entry
    — automatic and secure (SSL) upload of completed interviews
- Establish a web platform for:
    — user coordination (*eg*, password management, document library, mailing lists, forums and newsletters)
    — centralization of interview data, with data managed in an open-source SQL relational database
    — process monitoring (*eg*, interviews completed, refusals)
    — interactive data analysis
    — mapping of data through an OGC-compliant webGIS
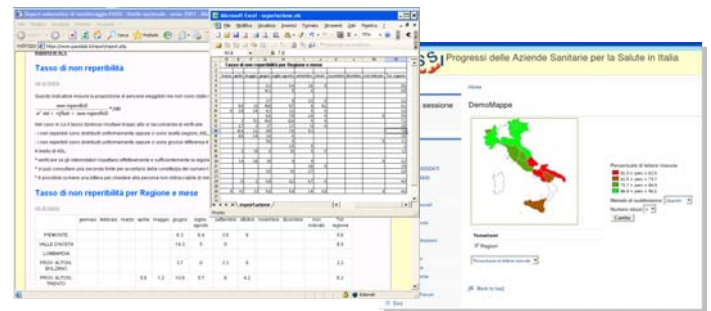
A web platform to import, manage, and analyze data

Uses an Open Source web portal (CMS Drupal with extensions and MapServer/MapBuilder) available at http://www.passidati.it

Smart client application for registration of interview responses

Multilingual CATI-like interview screen
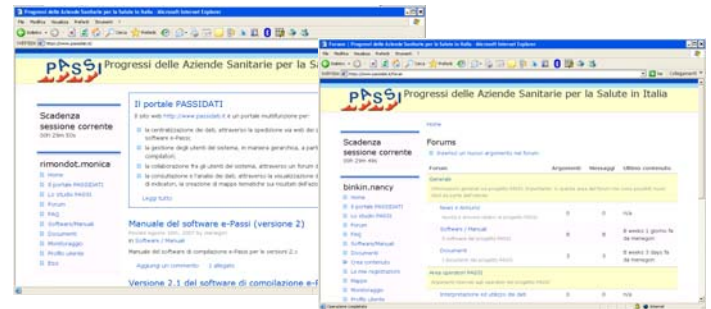
An instrument for communication and coordination

Automatic data upload

Centralized data collection, monitoring and analysis

Conclusions

- To date, more than 7,000 records have been successfully entered and analyzed
- The system may provide a useful model for conducting ongoing risk factor surveillance in countries with limited financial resources or in presence of technological gaps