

Are you aware that people in developing countries die from treatable diseases? **We are. We care!**

We're implementing healthcare information technology solutions to support health care providers in their work to combat these diseases.

SolDevelo



We support healthcare in low and middle-income countries by delivering modern software technologies in the OpenMRS electronic medical record system.

User interface for Concept Dictionary and UI library for Open Web Apps
Part II of changes introduced by **SolDevelo** to OpenMRS

What is OpenMRS?

OpenMRS is a global community that has developed an open-source electronic medical record system (EMR), made to support healthcare in low and middle-income countries. It supports both patients and doctors by providing easy access to medical records, diagnosis, prescriptions, and test results. Any healthcare system or member of the healthcare team, worldwide, can download the OpenMRS application for free and customize it according to their needs. This free software allows clinics and hospitals that use OpenMRS to provide efficient and effective medical care.

OpenMRS Report – Implementations in 2015:



>5.1 million
Active Patients



1149
Reported Sites

- Bangladesh
- Burundi
- Cambodia
- Chile
- Ecuador
- Ghana
- Haiti
- India
- Israel
- Kenya
- Lesotho
- Liberia
- Libya
- Malawi
- Mali
- Mexico
- Mozambique
- Nepal
- Peru
- Philippines
- Rwanda
- Senegal
- Sierra Leone
- South Africa
- Sri Lanka
- Tajikistan
- Uganda
- Vietnam

Where is OpenMRS?

Although OpenMRS started out fixing to help resolve a database system problem in a single clinic in Kenya, it has grown dramatically and is used both in clinical care as well as research settings in every corner of the planet.

SolDevelo has been working with OpenMRS since 2013, and we're proud to see where OpenMRS is today.



1 Problems faced by users and developers in the OpenMRS system that were identified and resolved through SolDevelo solutions

- Before introducing Open Web Apps front-end developers who weren't familiar with server side technologies could not easily contribute new features to OpenMRS as good command of Java was required.
- Before introducing UI (User Interface) components library, developers had to create themselves basic components such as tables, search boxes, etc. Implementing such custom components took time and required extra effort and resulted in a non concise user experience.
- Before introducing Concept Dictionary OWA, dictionary curators had to resort to using a legacy and outdated user interface, which didn't have uniform look & feel with the latest OpenMRS Reference Application.

2 What SolDevelo delivered to OpenMRS system

SolDevelo introduced a new Concept Dictionary Open Web App. It was created entirely by the SolDevelo team. It is an example of Open Web Applications (OWA) technology for OpenMRS. They are applications (modules of OpenMRS system) written in front-end technologies, communicating with the OpenMRS server via the REST API. They facilitate adding new features to OpenMRS by software developers. Adding new functionality to OpenMRS becomes easier and faster for a larger number of developers.

By creating Concept Dictionary OWA (dictionary of medical terms), which stores terms describing diseases, drugs, diagnoses, tests, procedures, other questions and potential answers, including measures defining the patient's condition, it becomes possible to manage dictionary medical terms (medical concepts) from the level of the new user interface. It allows collecting data in a simple and standardized way.

In addition, the SolDevelo team created a library of **UI (User Interface)** components. It can be used when creating new Open Web Apps for OpenMRS in AngularJS, which is one of the most modern technologies.

3 SolDevelo's involvement



3 employees working to implement new solutions to OpenMRS



They spent on this project over **+ 2000 hours** (still rising) ↗



They worked on that project as a part of SolDevelo's **Social Impact Program**



Our support is **probono**

4 Technologies We Used



JavaScript



HTML5



CSS3



Java



npm



ANGULARJS



webpack
MODULE BUNDLER



Jasmine



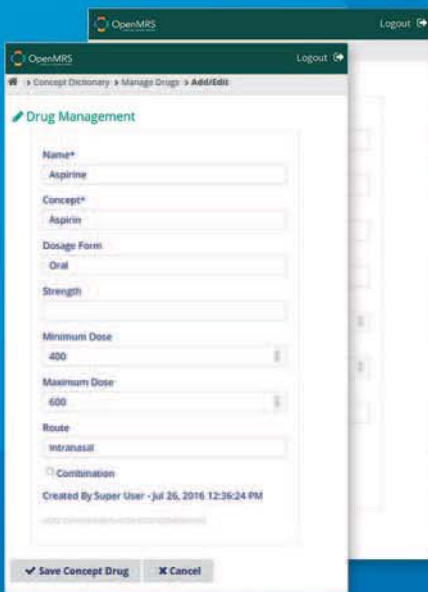
spring

5 Additional OpenMRS Technical Details

- UI commons library is composed of AngularJS components, including: tables, search fields, dialogs, notifications as well as AngularJS services supporting translation, REST API, and authorization.
- Concept Dictionary Open Web App is as a proof-of-concept for building OpenMRS Open Web Apps using NPM and Webpack as build tools, Jasmine for testing, and UI commons library written in AngularJS.

You can leverage some or all of these technologies to build your own OpenMRS distribution.

6 What is the impact of our work?

A screenshot of the OpenMRS web application interface. The browser window title is 'OpenMRS'. The page header shows 'OpenMRS' and a 'Logout' link. The breadcrumb trail is 'Concept Dictionary > Manage Drugs > Add/Edit'. The main content area is titled 'Drug Management' and contains a form with the following fields: 'Name*' (Aspirine), 'Concept*' (Aspirin), 'Dosage Form' (Oral), 'Strength', 'Minimum Dose' (400), 'Maximum Dose' (600), 'Route' (Intranasal), and 'Combination'. At the bottom of the form, it says 'Created By Super User - Jul 26, 2016 12:36:24 PM'. There are 'Save Concept Drug' and 'Cancel' buttons at the bottom.

- modern solutions delivered to OpenMRS
- implemented new technologies commonly used in developed countries
- more intuitive and friendly system to facilitate non-developers using the OpenMRS system
- unified interface and modernized look & feel, lowering barrier to entry for identifying new developers capable of working with OpenMRS without Java expertise
- system easier to modify for developers
- increased efficiency, helping developers creating new applications and features.
- lower costs of system maintenance
- introduced modern front-end tools for OpenMRS developers and attracting more contributors

7 References

SolDevelo volunteer contributions have been critical to the ongoing success of OpenMRS. As an ongoing contributor, SolDevelo personnel have helped ensure that OpenMRS software enhancements have been high quality, responsive to the needs of users, and delivered in a timely manner.

SolDevelo has proven their ability as a dynamic software development and information technology company. OpenMRS is grateful for their involvement and commitment to the OpenMRS community.

Paul Biondich – Executive Director OpenMRS

Thanks @raff and the SolDevelo team for all the great work so far! I'm a huge fan of anything that makes developer's lives easier, so I think the SDK sprint is an awesome idea. The more examples, documentation, videos, etc we can generate, the better.

Pascal Brandt – Community Manager, EMEA Region

See how SolDevelo can help you.

Contact us today!

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