OpenMRS Lite Module

2014 Internship Project

This project is being considered as a potential project for 2014 Internships. If you are a potential intern and are interested in working on this project, please discuss it in detail with the mentor(s) listed here before submitting your internship proposal.

Primary mentor	Jeremy Keiper
Backup mentor	Burke Mamlin
Assigned to	Shubham Rai

Background

Many international communities are looking for low-bandwidth, low-resource solutions for hosting and connecting to OpenMRS via 2G or 3G networks. They need a version of OpenMRS that can be accessed easily through a mobile browser or a laptop connected to a low-bandwidth ISP.

Abstract

This project aims to provide a modified UI atop (or in place) of the reference application, sufficiently reducing the size of the pages and associated resources. It will take direction from the existing reference application for which pages or views should be modified or replaced.

Project Champions

- Jeremy Keiper
- Derek Ritz (OpenHIE)

Objectives

1. Identify the heaviest / most resource-laden page views in the reference application.
2. Make use of the existing REST Web Services API For Clients or DWR in OpenMRS.
3. Engineer a thin client design, connecting to a hosted OpenMRS instance over a 2G bandwidth, using AJAX to update the page with minimal data transfer.
4. Establish a style guide for a low-bandwidth skin / theme.
5. Load a visit dashboard within a "reasonable" time over a 2G connection, or with a payload size below a "reasonable" threshold.
6. Provide instructions on how to write a low-bandwidth version of existing or new views.

Examples

The classic use case for this module would be a health worker using a tablet or smartphone in a 2G area; we should not be concerned with feature phone web page rendering problems. Similarly a satellite uplink or tethered phone in a low connectivity area would be ideal for demonstrating the benefits of using this module in place of the reference application.

We have a real-world situation that an engineered solution would directly impact; the RHEA Maternal Care workflow is a combination of several OpenMRS HTML Form Entry forms. A good solution would allow for capturing this data over a 2G connection, either on a computer with a low bandwidth uplink or on a mobile device. In this scenario, we can assume the following:

- The client (patient) demographic details will be known once the client ID is known (e.g. age, sex, etc).
- The client's antepartum history will be used to determine the risk factors, so these do not need to be separately entered.
- Workflow forms will follow a branching logic, based on WHO maternal care guidelines.

See the WHO MNCH Guidelines and RHEA OpenMRS maternal workflow forms for more information.

Design

I believe the key to this will be smart UI design and a style guide that allows for minimal page entities while conveying the right amount of information and functionality. We might trade off automation for page load timing. We could also investigate how to preload some data and allow the phone to catch up and enable automation after the user has some way to view the bulk of the data.

Documentation

- To be developed

Resources

- To be provided