

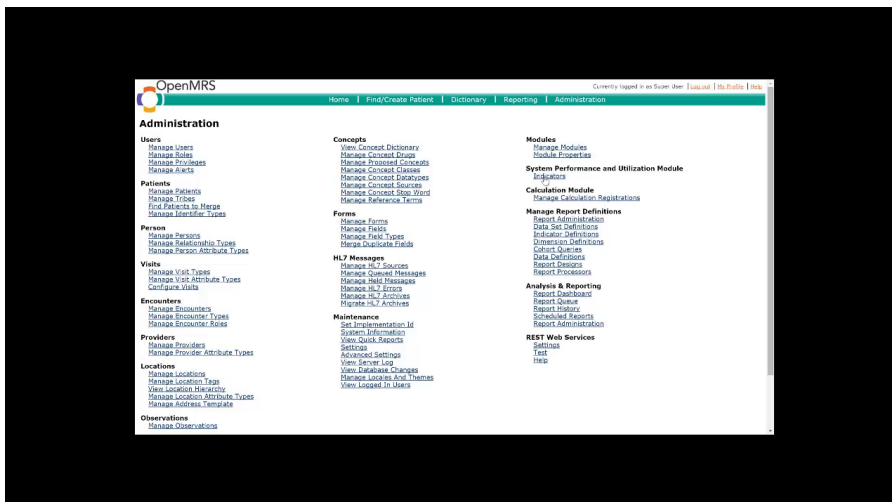
System Performance and Utilization Module

Overview

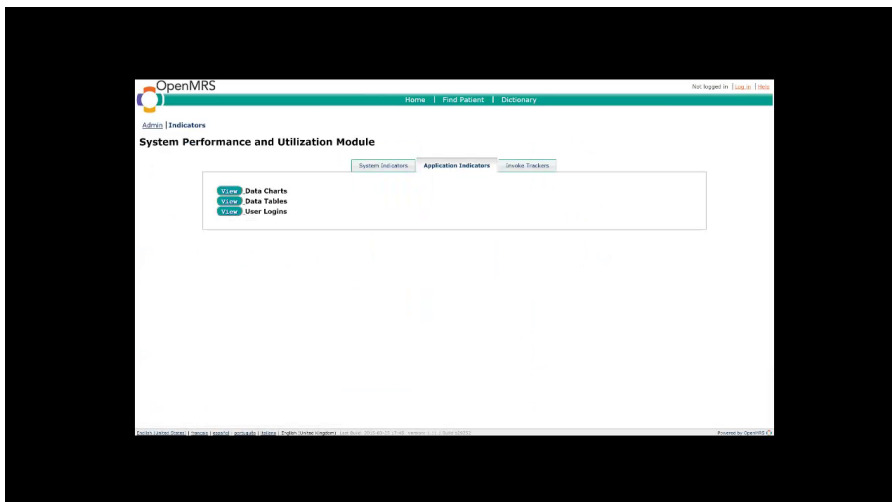
The system performance and utilization module provides information on system performance and utilization in order to monitor reliability and impact of the electronic medical record system installation. These indicators include both low level system indicators (CPU load, memory utilization, etc.) as well as application level indicators (# logins per day per user, # of opened charts, etc.). The system indicators are mainly developed using Java Management beans API's statistics. The graphical data is rendered using the Google Charts API.

Usage of Module

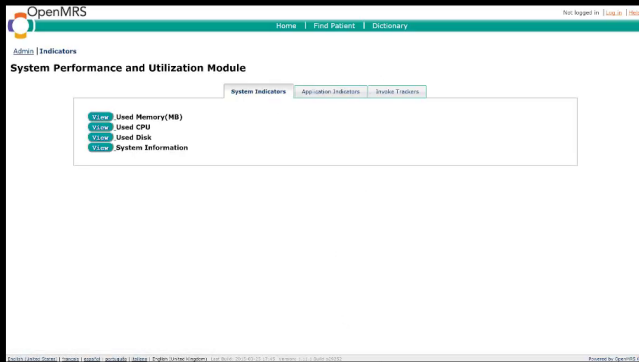
The 2.0 Version of the System Performance and Utilization Module. The module usage is very simple. Just install the module and open the Administration panel to seek for module functionality which includes :-
Administration Panel



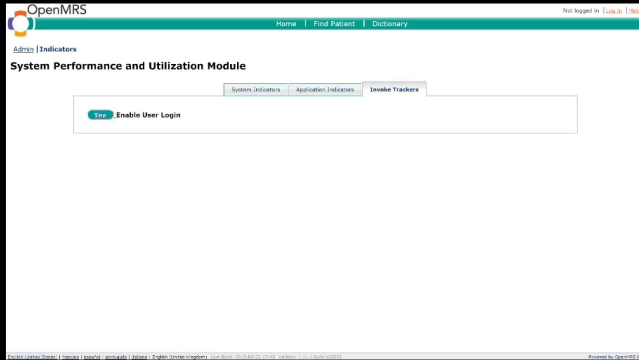
Application Indicators Option



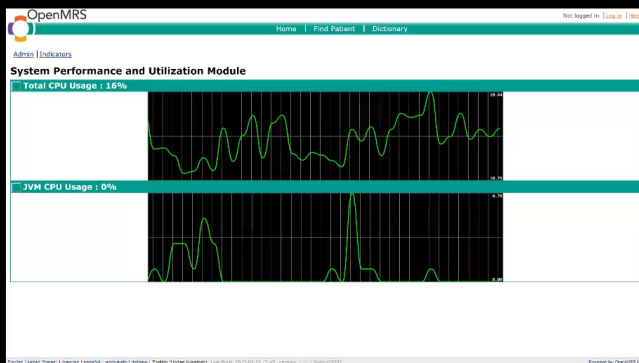
System Indicators Option



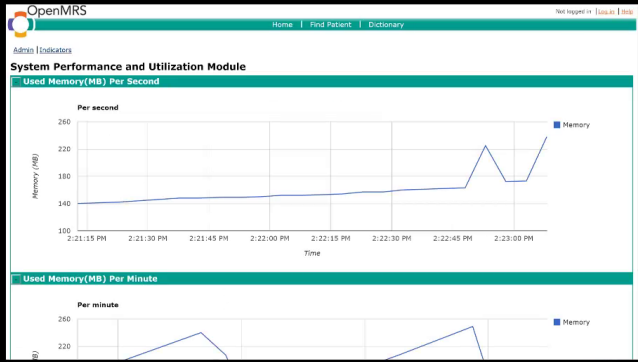
Enable User Login in Invoke Trackers to get Login Details



1. Statistics :- Memory Usage, CPU Usage, Disk Usage and System Information
CPU Usage



Memory Usage



Disk Usage

The screenshot shows a table titled "System Performance and Utilization Module" with a sub-heading "Disk Usage". The table has columns for "Absolute Path", "Used Space", "Free Space", and "Total Space". The data is as follows:

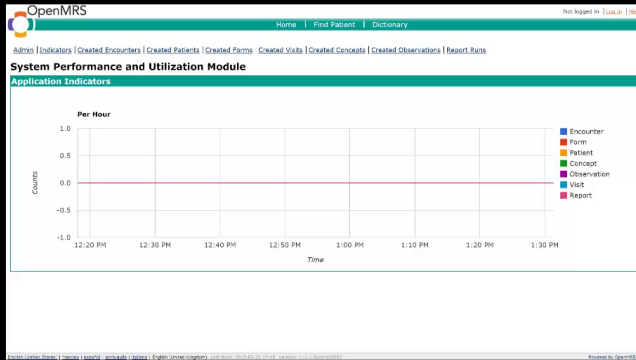
Absolute Path	Used Space	Free Space	Total Space
C:\	10,075	7,430	17,505
D:\	17,224	11,419	28,643
E:\	8,587	8,000	16,587

System Information

The screenshot shows the "System Performance and Utilization Module" with the "System Information" section expanded. The information is as follows:

- Operating System**
 - Name : Windows 7
 - Architecture : x86
 - Version : 6.2
- Virtual Machine**
 - Name : Java HotSpot(TM) Client VM
 - Vendor : Oracle Corporation
 - Version : 21.0-b17
- Processors**
 - Number of Processors : 8
- Main Memory**
 - Page File
 - 3VM Memory
- Memory Usage**
 - Free : 334014856 bytes
 - Total : 518979584 bytes
 - Maximum Available Memory : 518979584 bytes
 - Memory Usage : 45%

2. Application Statistics :- Form Filled, Logged In User, Patient Counts, Encounter Counts, Report Run etc. Graphical Stats



Tabular Stats

The screenshot shows the 'System Performance and Utilization Module' interface with a table titled 'Application Indicators'. The table has two columns: 'Field' and 'Count'. Below the table are 'Export' and 'Print' buttons.

Field	Count
Encounter	0
Form	0
Patient	0
Concept	0
Observation	0
Visit	0
Report	0

The 1.0 Version of the System Performance and Utilization Module.

1. System Monitoring Indicators

System monitoring is currently focused on gathering and presenting information on low level system indicators on Memory utilization. The v1.0.0 which is the currently available module version provides graphical information on used memory of the OpenMRS installation, based on per second view and per minute views. The per second memory usage table displays data on the used memory for the last two minutes (120s) where the per minute table provides memory usage of the last 30 minutes.

2. Application Monitoring Indicators

The application monitoring is introduced to monitor what usage patterns are occurring number of opened charts during a set time period, number of modified charts during a set time period, number of active log ins etc. This is currently under development and the first phase of the implementation will be available with v 1.1.0 of the module which is due on August 2014.

Google Chrome Extension

Fed up of opening the admin panel again and again for the system statistics. Don't worry about it. You can download the google chrome extension for the module from the store. Currently extension is developed for Google Chrome Browser. This will make the module usage simple and quick access to the information.

Here you can download the Extension:-

<https://chrome.google.com/webstore/detail/openmrs-system-metrics/hlboibcegflokmemnonpnlfbdgekcpbo>

Requirements

- Developed and tested against OpenMRS 1.10+, OpenMRS 1.11+ versions.

Download

- [Download the System Performance and Utilization module 2.0.0](#)
- [Download the System Performance and Utilization module Google Chrome Extension](#)
- [Download the System Performance and Utilization module 1.x](#)
- Source code:
 - [View/download source code for systemmetrics module](#) from github
 - [Download source code](#) from github

Features

- [Module Home](#)
- [Average memory usage of the system per seconds and minutes](#)
- [Average user log ins to the system per seconds and minutes](#)
- [Number of encounters created per hours and days](#)

Videos

The following video is an overview and usage guide for the version 1.0.0 of the module.

Version 1.0.0 :

Version 1.1.0:

From Recent development:

Resources

- GSOC project page: [System Performance and Utilization Module](#)
- Module repository: <https://addons.openmrs.org/#/show/org.openmrs.module.system-performance-and-utilization-module>
- Project JIRA: <https://issues.openmrs.org/browse/SPU>
- Project Blog 2014: <http://milindarukshan.blogspot.com/>
- Project Blog 2015: <https://vineetgsocer2015.wordpress.com/>
- Github project source: <https://github.com/openmrs/openmrs-module-systemmetrics>

About

This module was developed by [Milinda Rukshan](#) & [Vineet Kumar](#) as a GSOC Project under the mentoring of [Pascal Brandt](#) and [Jan Flowers](#). The module implementation information can be found in [this page](#) in the GSOC Projects section.