

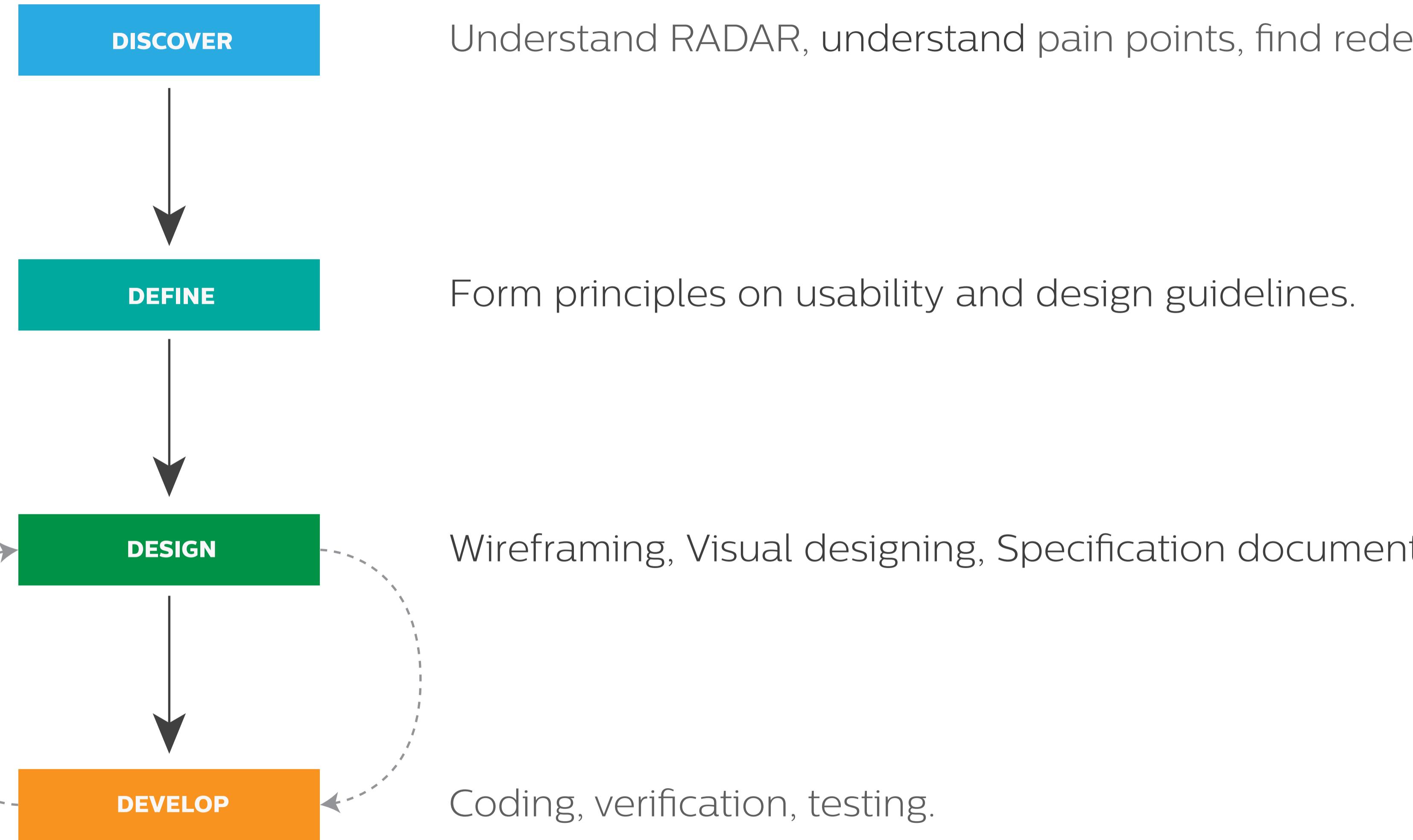
# RADAR

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ux design

Vivek Chawda

# PROCESS



## User Study Methodology

Interview Tone:

We conducted semi structured interviews i.e. made it exploratory as well as well-defined.

We engaged users in conversation about their work by maintaining an attitude of inquiry and treating users as an expert in their work. We encouraged users to share thoughtful responses and speak about their attitudes, motivations and distress points.

Outcomes:

- (a) Well defined user profiles (personas - their backgrounds, expectations from the system, usage patterns etc.)
- (b) Experience Flow (details of usage flow including triggers, tasks, motivations, constraints from start to end)
- (c) System usage workflow (how users interact with the system)
- (d) Detailed actionable, trackable, implementable UI Improvement directions

What we looked out for:

- Workarounds
- Mismatch between what people say / did
- Offhand comments
- Sighs/Rolling of eyes/Confessions

# EXPERIENCE FLOW



"There are too many countries shown here. I am only concerned with Spain."

"I cant figure out which all sites I have finished analysing"

"Never used the help. No idea what is in it."

"I need to show to my boss the number of systems I handled sucessfully"

"Before going into the details for a system, I need to check for its rechability first"

"Customers need a scientific report on how their systems are performing."

# Remote Service Engineer



**Martin John**

36 Years

Customer support  
(Senior Specialist)

## Expertise

RADAR



Computer



Gadgets



Martin John is a Senior Specialist for Customer support. He is the primary user of Radar, and the information presented by Radar is consumed for his everyday work of finding issues with connected medical system and providing a suitable resolution for it.

RADAR is the primary tool for Martin's workflow. In addition, he also uses tools to analyse the LOG file (CAT) and case management tool (ClickScheduler).

## Product Deposition

"Radar is critical for detection of faults in our machines. We need to understand how to efficiently use RADAR and minimize using parallel products."

## Goals

Resolving the issues that prevents normal functioning of the system by:

1. Resolving the *primary* issue.
2. Resolving *related* issues.
3. Resolving *all other* issues.

## Influencers

Other tools: CAT, OneEMS, ClickScheduler  
RADAR modules from different modalities

## Likes

LOG viewer is very helpful.  
System overview summarizes the status of a system, helpful information.

## Dislikes

No integration with other products like CAT.  
Error messages are non-intuitive.  
Need to navigate several pages and tabs in order to carry on with the workflow.  
Information not relevant to the user is also shown upfront.

# Modality Owner



**Jon Andrew**

66 Years  
Support Specialist  
(BIU owner)

## Expertise

RADAR



Computer



Gadgets



\*

PERSONA\*



Jon Andrews is a Senior Customer Support for iXR BIU. He is responsible for managing his team of support technicians, and to ensure that the region/area allocated to them is taken care of perfectly. Jon uses Radar to check the status of his allocated region, and to understand the overall statistics of how the connected systems are performing. Jon also uses Radar to keep in check the activities of his team, and to advise or suggest solutions if required by his support technicians.

## Product Deposition

“Radar is the primary tool for us. The dashboard and the region specific insights help me in preparing reports on my team & region performance.”

## Goals

1. Resolving the *primary* issue.
2. Finding out the perfect solution for a specific issue
3. Generating periodic performance reports
4. Ensuring that my team resolves all the issues they encounter

## Influencers

Other tools: CAT, OneEMS, ClickScheduler  
RADAR modules from different modalities

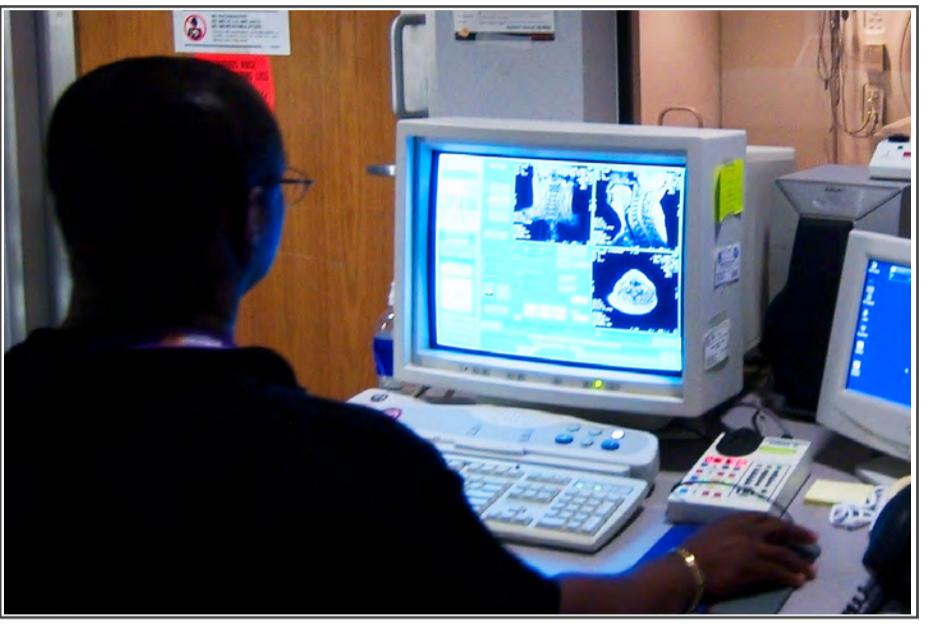
## Likes

System overview summarizes the status of a system, helpful information.  
Comments help in understanding the status of that issue or case.

## Dislikes

Need to navigate several pages and tabs in order to carry on with the workflow.  
Information not relevant to the user is also shown upfront.  
Need weekly statistics for my area of interest

# Equipment User



**David Jones**

29 Years  
MRI Technician  
(BMRT)

## Expertise

RADAR



Computer



Gadgets



David Jones is a MRI Technician at Good Hands Hospitals, Bangalore. His primary duties comprises of cecking the MRI machine for all settings, making sure that the machine is in perfect running condition, preparing for a scan and also the post scanning activities such as logging the details in a journal, managing resources. In a situation of equipment malfunction or breakdown, it is the technician who is usually delegated with the task of reporting the issue and/or resolving it.

## Product Deposition

"The Philips support should be quick to address my issue and providing a resolution as soon as possible."

## Goals

1. Make sure that the equipment is in perfect running order.
2. Make sure that the settings are all correct.
3. Minimize the equipment non-usage time.

## Influencers

Automobile maintainence, Mobile phone service, Door-to-door service

## Likes

Equipment has a remote diagnostic feature.

## Dislikes

Many errors goes away unnoticed by us  
It takes quite some time if the engineer has to bring parts to fix the broken machine  
We have to call the service center and explain the issue in detail if anything happens with the equipment

# Field Service Engineer



**Charles Smith**

34 Years  
Field Service Engineer  
(Masters in Electronics)

## Expertise

### RADAR



### Computer

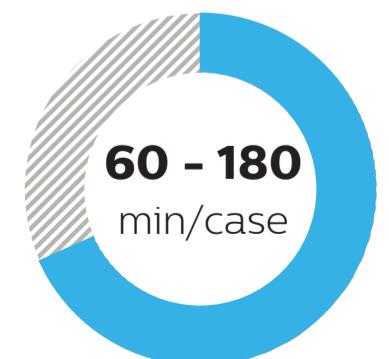


### Gadgets



\*

PERSONA\*



Charles Smith is a Field Service Engineer, responsible for going on-location to fix any issues or interruptions occurring in the Philips medical systems. Charles also makes routine visits for maintenance and periodic service.

He is trained to understand and repair Philips healthcare systems.

Charles is informed on which system has an issue, via his team that continuously monitors all connected systems through Radar.

Charles communicates back to his team & region incharge, on the status and progress of a case.

## Product Deposition

"Radar is quite useful to understand the nature of the issue. We can get an idea of the events that took place before the issue was encountered. This way we have a starting point for our analysis."

## Goals

1. Conduct and complete periodic maintenance and service of Philips medical systems
2. Perform successful repairs and inspections in case of any issues
3. Maintain service logs and audit reports for up to date information on the systems
4. Reduce frequency of breakdowns, thus reducing number of onsite visits

## Influencers

Other tools: CAT, OneEMS, ClickScheduler  
RADAR modules from different modalities

## Likes

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## Dislikes

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# IxR

“Monitoring overview needs a shortcut in the dashboard”

“Countries should be set in personal preset. So that only my countries of interest are shown.”

“I always need to click “More” to access further details”

“Need some type of “Suppress” to hide irrelevant messages”

“There are too many tabs and windows”

“LOG viewer is very useful for quick idea”

“LOG viewer default duration is way to short”

“Errors are unintuitive and non helpful”

“No way to know the scheduled visit date/time”

“Need an overall dashboard to checking the general status of the systems”

“Wrong severity setting can be risky. “System down” has legal implications.”

“AOK login is unnecessary”

“Radar users are usually allocated with a pre-defined region”

“Need to know if the system restarted between occurrences. Compare times between system usage & Failures”

“Sites that have been checked should be sectioned away”

“Hardly used the navigation tree for regions”

“No idea of which system was being handled, if the tab is closed”

“Need status display for cases”

“Never used Radar help”



Americas - Europe - India

## MR

“Usually it is a direct search for the system from Radar”

“We use magnet monitoring a lot for MR”

“Co-relating graphs like Boil-off & Helium level is very insightful”

“Groups & Sites is not clear. Error messages are not really helpful”

“Copy error messages, potential solution & details and mail to ML (Modality Leader)”

“Customers are hesitant for proactive repairs, as it disrupts their workflow”

“No overview of pending systems for a region”

“The first thing to check, is the rechability of the system”

“List of systems should be ordered as per its recability status”

“Multiple/repititive alerts should be suppressed”

“Rarely used the navigation tree for selecting regions”

“AOK login is unnecessary”

“There should be more personalization options”

“Did not know Help existed”

“Marketing folks find System Utilization report really helpful”

“Number of acquisitions, protocols, helium info, temperature, room temperature, humidity are quite important parameters to note”

“No idea of which system was being handled, if the tab is closed”

“First page should just display warning and fault.”

“Some way to see number of cases handled, and sucess percentage. I need to show it to my boss”



## CT

“We have to keep referring to OneEMS to see oncoming call”

“LOG viewer is very frequently used, to check for the exact cause”

“FSE are informed of the issue by Phone, mail or OneEMS”

“Nice traffic light type status display for severity”

“Actionable Tool Panel is used to analyse errors”

“Customer has generally reported the error, before I get to know about it”

“Philips is time based recording. Siemens was event based. Event based recording is better”

“90% of the cases need a FSE to go onsite”

“Need reports. Overall status, system health, errors encountered”

“System Performance is frequently referred to understand how the system is being used, to suggest part replacements”

“Never used help. It is easier & quicker to ask someone who knows Radar”

“Reachability of the system is needed as the primary information”

“We do not check systems if no case is raised. BU does the monitoring and doing again will unnecessary increase the call volume”

“First step is to check in PRS if the system is reachable and online”

“If the system is online, Telnet is used to download fresh LOG. LOG file from Radar is old & not of much use”

“We mail the FSE with the error details, possible causes & solutions”

“The concerned FSE is found out from a Excel file. We remember common ones”

“Only check the RED's. YELLOW's are usually false, severity not as much”

“Follow-up is by direct mail to FSE, or call to confirm if the issue has been taken care of”

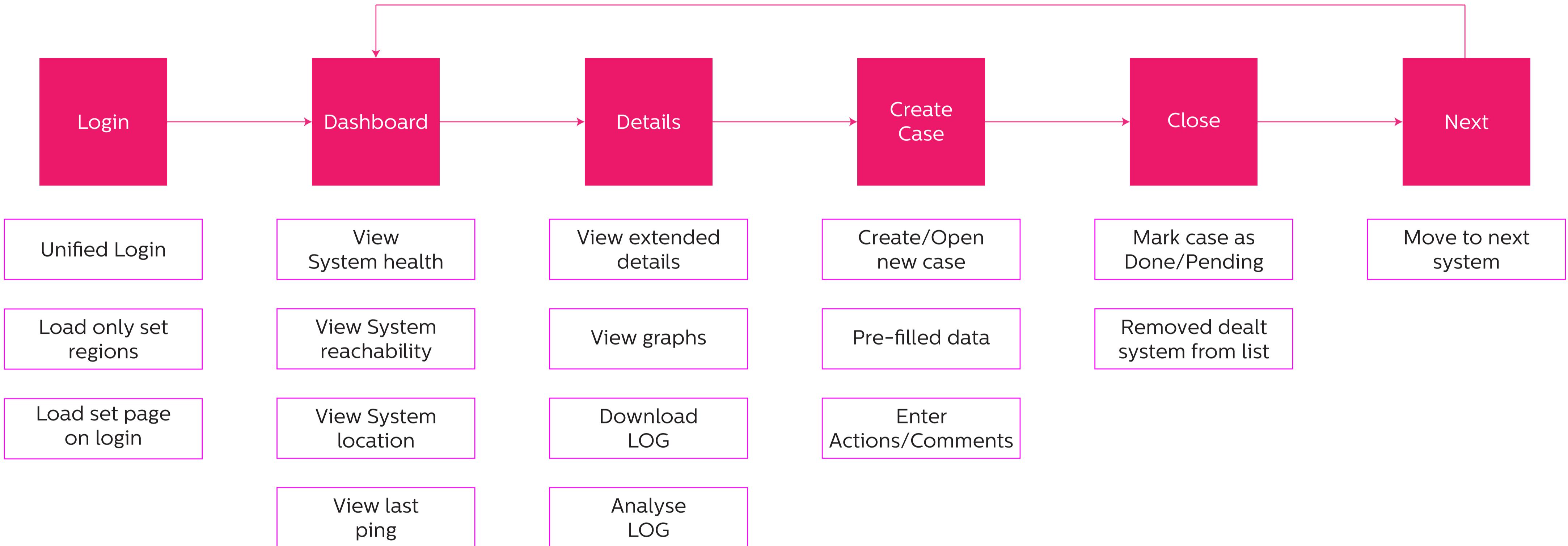


China - Europe - India

## TIER - 2

user searches their allocated region for system with an issue

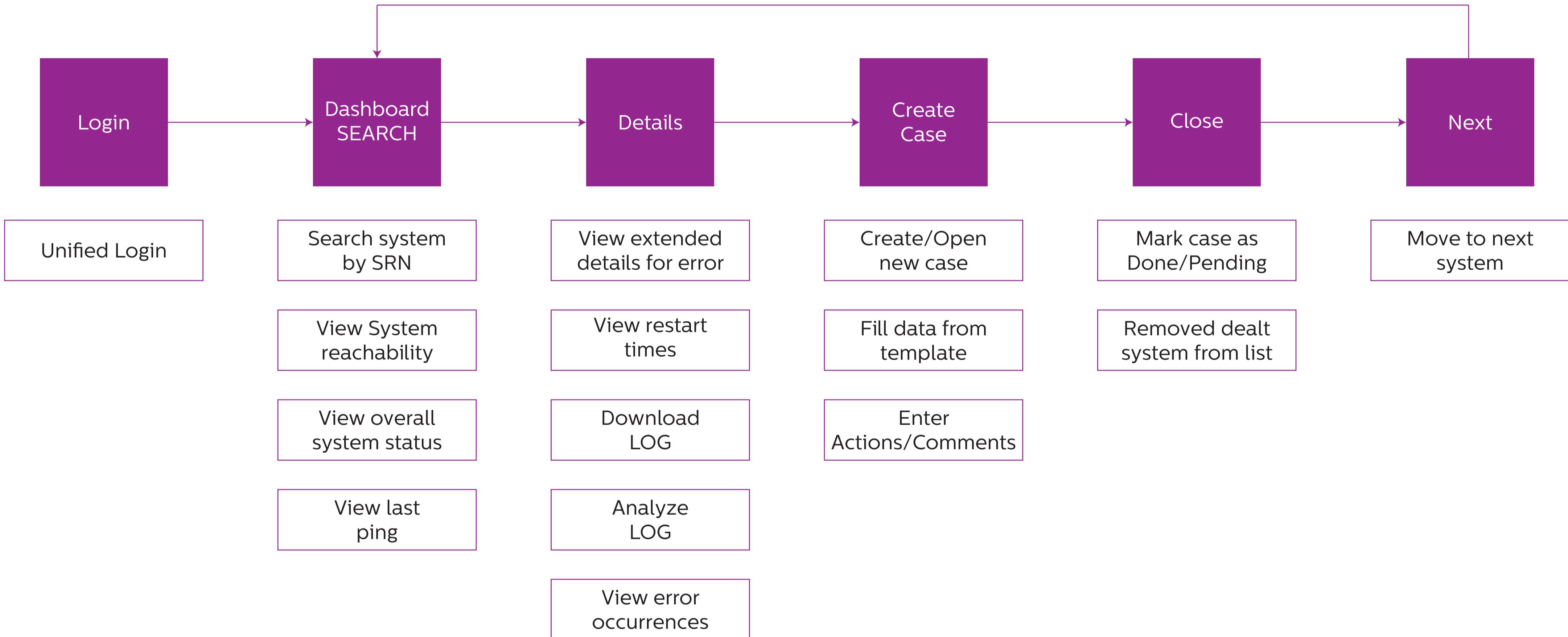
### WORKFLOW



# MONITORING

user searches by SRN for a system with issue, and takes action

## WORKFLOW



## Pre-Analysis

Identify system & issue

Fetch LOG file

Check system reachability

*Login is too complex.*

*I don't need to see all the countries/regions.*

*I cannot customize the columns in the table.*

*I directly search for the system using the SRN Number.*

*Test for reachability of the system*

## Analysis

Go through LOG details

Correlate LOG messages with other parameters

Check comments

*View LOG file to understand the issue*

*Too many irrelevant error messages in LOG file.*

*I co-relate different parameters to evaluate values*

*Status overview is very insightful during the start of the workflow.*

## Post-Analysis

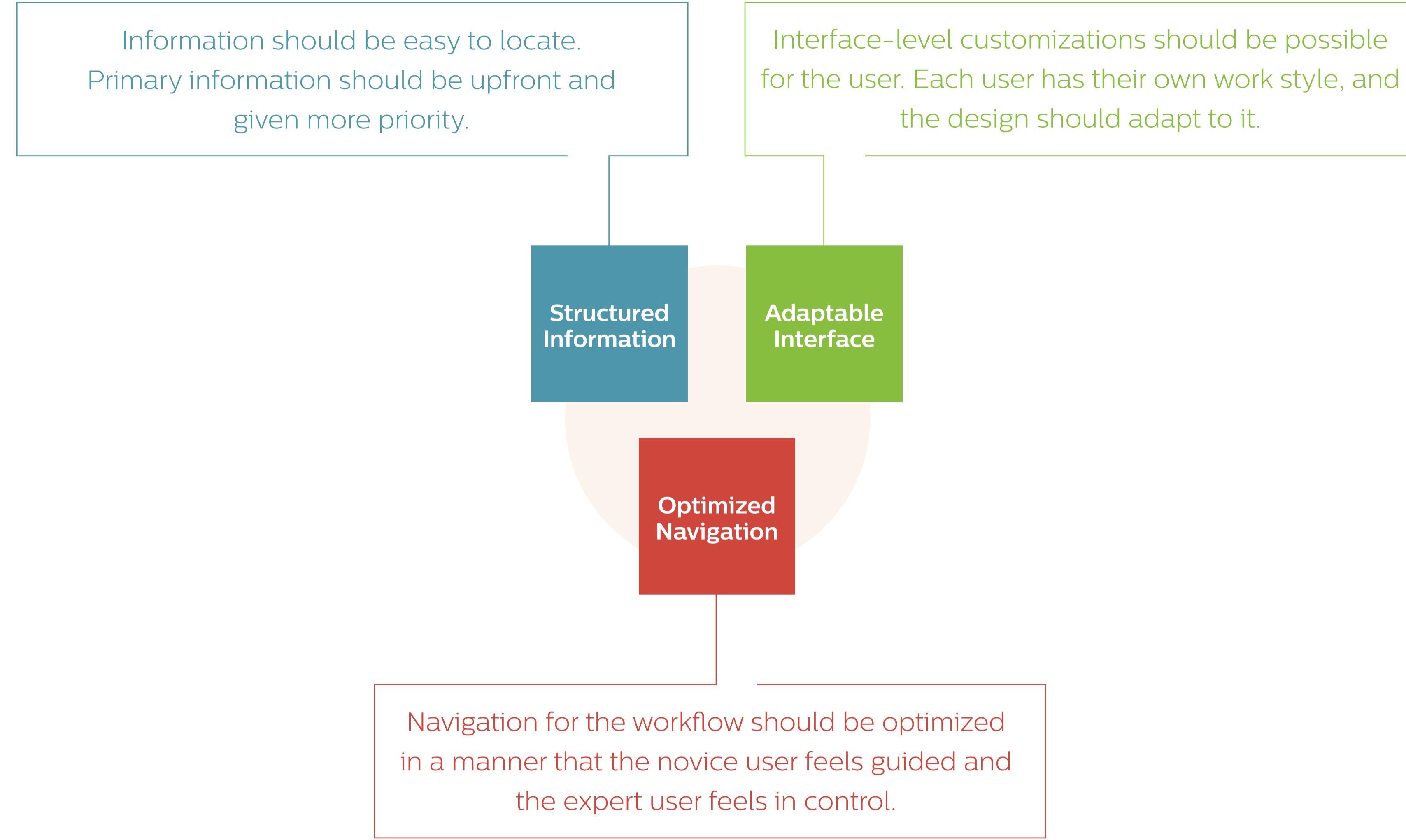
Open clarify case

Mention issue details

Mark case as closed

# AFFINITY MAP





## Structured Information

Modules and tools should be easily locatable  
User should be aware of where they are in the workflow  
Critical information upfront, secondary information can be discreet  
Information layout should augment users mental model

## Adaptable Interface

Interface should be designed around the typical workflow of an user  
Highlight key activities in workflow to assist user in completing the task  
Interface should allow customizations, so that the user can tailor according to their style  
Abstract information based on logged in user

## Optimized Navigation

Navigation structure should be intuitive and clear  
Use visual aids to assist user in efficient navigation  
Navigation model should correlate with typical user workflow  
Keyboard and interaction shortcuts to help the user with quicker task completion.

**Structured Information****Modules and tools should be easily locatable**

1.1 User should be able to find and launch a desired tool/module with ease

**User should be aware of where they are in the workflow**

1.2 Interface should convey the progress of the user's workflow activity

**Critical information upfront, secondary information can be discreet**

1.3 Information should be prioritised, information not relevant to the user should be on a second level

**Information layout should augment users mental model**

1.4 User should not feel lost within the interface. Users mental model of the workflow should be in parallel with the information layout.

## Adaptable Interface

### **Interface should be designed around the typical workflow of an user**

2.1 Progression in the interaction and the interface should be designed to match users workflow.

### **Highlight key activities in workflow to assist user in completing the task**

2.2 Key activities should be treated as milestones, and as an aid to help user locate themselves in the workflow

### **Interface should allow customizations, so that the user can tailor according to their style**

2.3 Interface should allow some level of customization, so that every user feels comfortable using RADAR

### **Abstract information based on logged in user**

2.4 Data presented to the user can be filtered/catered on basis on the login credentials

## Optimized Navigation

### **Navigation structure should be intuitive and clear**

3.1 User should be able to clearly understand on where to proceed next

### **Use visual aids to assist user in efficient navigation**

3.2 Visual cues should be present in the interface for quick identification of actions and information

### **Navigation model should correlate with typical user workflow**

3.3 It should be natural for the user to progress in the interaction, and it should match their workflow

### **Keyboard and interaction shortcuts to help the user with quicker task completion.**

3.4 Interface should be designed for novice as well as expert users. Shortcuts will accelerate task completion for proficient & expert users

Navigation tree for selecting region can be made simpler.

Visual world map is introduced, clicking on a region zooms in and narrows the selection.



Narrowing down to a specific site can be made simpler & quicker.

Various filters are introduced, which the user can use to refine the site list and find the site of interest directly.



Every user would have a different region of interest, finding that should be equally easy for all.

The filter set applied, can be saved by the user. User does not always have to fill in the filters.



Searching for a location should be possible directly.

Search in the world map can be used to directly enter a region and zoom into it.



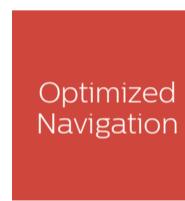
The list of systems should be filterable by date.

Duration -From & To- can be selected to narrow down the system list by time.



Workflow should not be complex with multiple open tabs.

The information architecture has been simplified, **Overview – System Info – Downloads – Admin** as the root level sections.



Expert users might need detailed information while abridged information for new users would be enough.

Radar would have three modes. **Manual, Automated** and **Predictive**.



Searching for a location should be possible directly.

Search in the world map can be used to directly enter a region and zoom into it.



Everything upfront in the interface makes the UI cluttered and complex to navigate.  
Options that are not frequently used can be hidden or at a secondary level.



User should have access to assistance / Help at any point while using Radar.  
Trigger for Help is in a conventional place and prominent, where the user can access it at any point.



Site that needs attention on priority, should be shown clearly.  
A separate table with sites that are critical and on priority is shown in the first page view to the user.



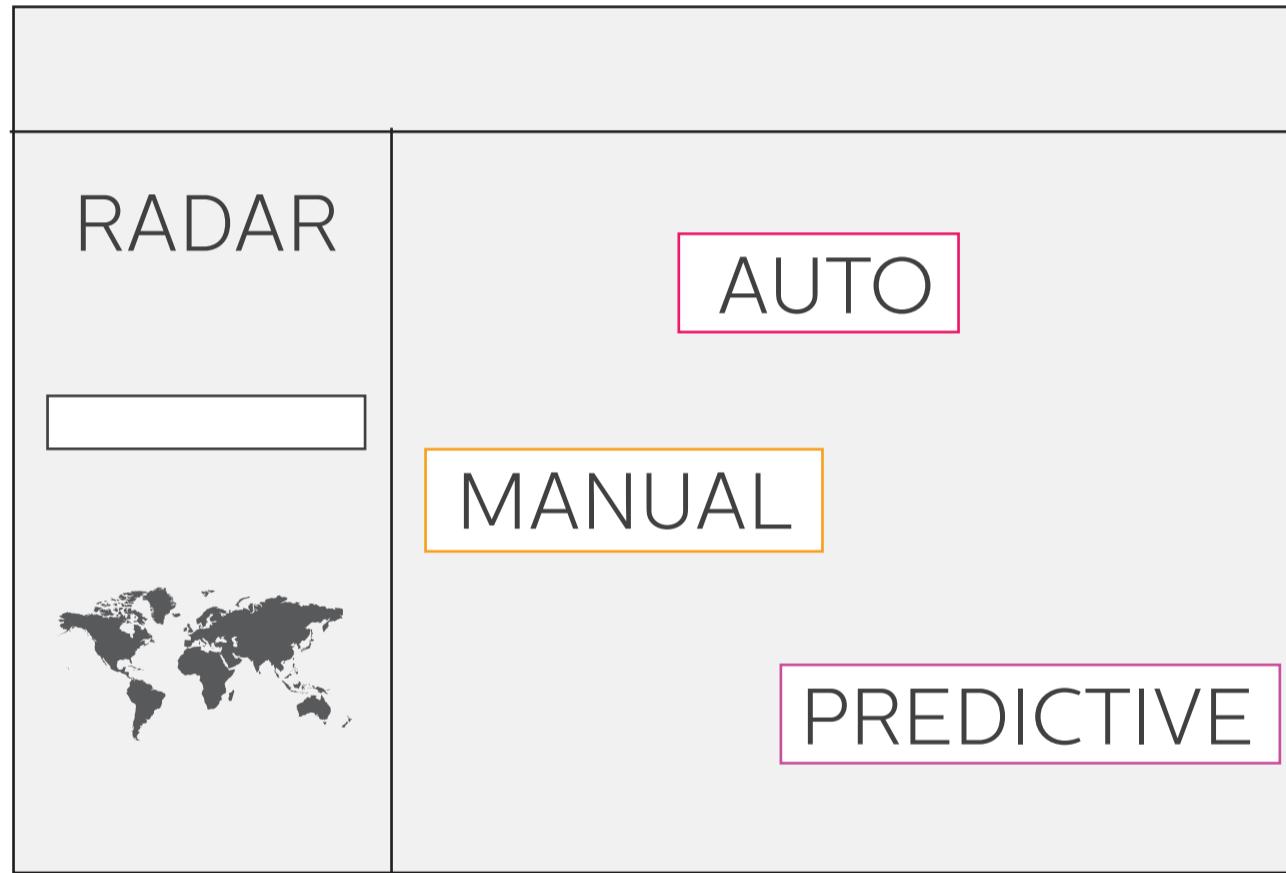
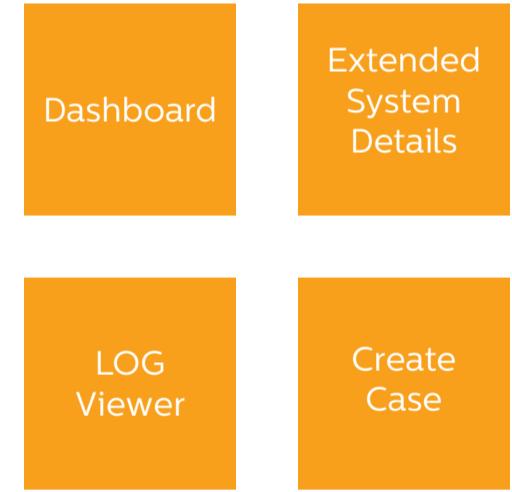
The table should contain information that is relevant to a particular user.  
Tables can have selectable columns, and the individual columns can be resized/rearranged.



**Manual Mode**

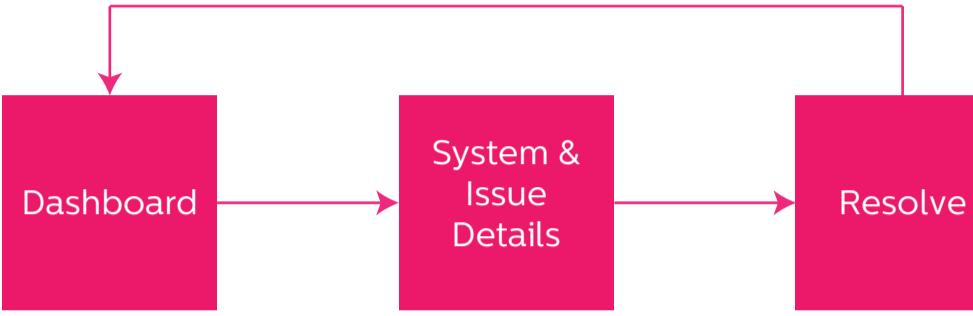
User selectable modules and workflow. System and performance graphs.

Enables specialized workflows.

**Auto Mode**

Guided workflow with a wizard-like interaction.

Makes routine tasks easier.

**Predictive Mode**

Intelligent dashboard with proactive and advance alerting.

Minimizes system downtime & increases service efficiency.

**Filter List by**

System name

Model

SW Release

SAP ID

Site type

**Locations**

Search

APAC

**Manual**   **Automatic**   **Predictive**

**DRAFT**

### Select period

17-Feb-2015 to 20-Feb-2015

4 days

#### Most Critical Sites - APAC

#	RADAR Severity	CAT Severity	Location	System ID	Last edited
<input type="checkbox"/>	HIGH	MEDIUM	APAC - Japan - JAPAN - Chiba - Seikei-kai Chiba Medical Center	CV_58462267_429_ALLURA_FD20/20	20 Feb 2015
<input type="checkbox"/>	HIGH	MEDIUM	APAC - Japan - JAPAN - Chiba - Tokyo Women Yachiyo Medical Center	CV_35151970_441_FD20/ROOM8	19 Feb 2015
<input type="checkbox"/>	HIGH	MEDIUM	APAC - Japan - JAPAN - Hiroshima - Chugoku Rosai Hospital	CV_63898183_198_ALLURA_FD10	19 Feb 2015
<input type="checkbox"/>	HIGH	MEDIUM	APAC - Korea - KOREA, REPUBLIC OF - Bucheon-si - Bucheon Holy Family Hospital	CV_62950449_355266_XTRAVISION	18 Feb 2015
<input type="checkbox"/>	HIGH	MEDIUM	APAC - Korea - KOREA, REPUBLIC OF - Wonju-si - Wonju Christian Hospital	CV_49033396_1642_FD10	17 Feb 2015

#### All Sites - APAC

Showing 842 sites 1 - 20 of 842

#	RADAR Severity	CAT Severity	Location	System ID	Last edited
<input type="checkbox"/>	MEDIUM	LOW	APAC - Japan - JAPAN - Hiroshima - Chugoku Rosai Hospital	CV_58462267_429_ALLURA_FD20/20	17 Feb 2015
<input type="checkbox"/>	HIGH	HIGH	APAC - Japan - JAPAN - Chiba - Tokyo Women Yachiyo Medical Center	CV_35151970_441_FD20/ROOM8	17 Feb 2015
<input type="checkbox"/>	MEDIUM	LOW	APAC - Japan - JAPAN - Hyogo - Japanese Red Cross Kobe Hospital	CV_63898183_198_ALLURA_FD10	17 Feb 2015
<input type="checkbox"/>	MEDIUM	MEDIUM	APAC - Japan - JAPAN - Ishikawa - Kanazawa University Hospital	CV_62950449_355266_XTRAVISION	17 Feb 2015
<input type="checkbox"/>	MEDIUM	MEDIUM	APAC - Japan - JAPAN - Kyoto - Fukuchiyama Citizun Hospital	CV_49033396_1642_FD10	17 Feb 2015
<input type="checkbox"/>	LOW	LOW	APAC - Greater China - CHINA - Dalian - LN Dalian M.U.A. No.1 Hosp.	CV_58462267_429_ALLURA_FD20/20	17 Feb 2015
<input type="checkbox"/>	LOW	MEDIUM	APAC - India - INDIA - BELGAUM - KLES HOSPITAL	CV_35151970_441_FD20/ROOM8	17 Feb 2015
<input type="checkbox"/>	LOW	LOW	APAC - India - INDIA - Jaipur - Jaipur Heart Institute	CV_63898183_198_ALLURA_FD10	17 Feb 2015
<input type="checkbox"/>	MEDIUM	LOW	APAC - India - INDIA - Guwahati - HAYAT HOSPITAL	CV_62950449_355266_XTRAVISION	17 Feb 2015
<input type="checkbox"/>	LOW	LOW	APAC - ASEAN - THAILAND - PrachuapKhirikhan - Huahin Hospital	CV_49033396_1642_FD10	17 Feb 2015
<input type="checkbox"/>	MEDIUM	LOW	APAC - ASEAN - THAILAND - NakornRatchasima - ST. MARY HOSPITAL	CV_62950449_355266_XTRAVISION	17 Feb 2015

Administration

Logout

**Filter List by**

System name

Model

SW Release

SAP ID

Site type

**Locations**

Search

APAC

**Manual** **Automatic** **Predictive**

**DRAFT**

### Select period

17-Feb-2015 to 20-Feb-2015 **Search**

4 days

#### Most Critical Sites - APAC

#	System status	RADAR Severity	Location	System ID	Last edited
<input type="checkbox"/>	12 min ago	HIGH	APAC - Japan - JAPAN - Chiba - Seikei-kai Chiba Medical Center	CV_58462267_429_ALLURA_FD20/20	20 Feb 2015
<input type="checkbox"/>	4 min ago	HIGH	APAC - Japan - JAPAN - Chiba - Tokyo Women Yachiyo Medical Center	CV_35151970_441_FD20/ROOM8	19 Feb 2015
<input type="checkbox"/>	21 min ago	HIGH	APAC - Japan - JAPAN - Hiroshima - Chugoku Rosai Hospital	CV_63898183_198_ALLURA_FD10	19 Feb 2015
<input type="checkbox"/>	5 min ago	HIGH	APAC - Korea - KOREA, REPUBLIC OF - Bucheon-si - Bucheon Holy Family Hospital	CV_62950449_355266_XTRAVISION	18 Feb 2015
<input type="checkbox"/>	15 min ago	HIGH	APAC - Korea - KOREA, REPUBLIC OF - Wonju-si - Wonju Christian Hospital	CV_49033396_1642_FD10	17 Feb 2015

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#	System status	RADAR Severity	Location	System ID	Last edited
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<input type="checkbox"/>	4 min ago	HIGH	APAC - ASEAN - THAILAND - NakornRatchasima - ST. MARY HOSPITAL	CV_35151970_441_FD20/ROOM8	17 Feb 2015
<input type="checkbox"/>	21 min ago	MEDIUM	APAC - Greater China - CHINA - Dalian - LN Dalian M.U.A. No.1 Hosp.	CV_63898183_198_ALLURA_FD10	17 Feb 2015
<input type="checkbox"/>	5 min ago	MEDIUM	APAC - India - INDIA - BELGAUM - KLES HOSPITAL	CV_62950449_355266_XTRAVISION	17 Feb 2015
<input type="checkbox"/>	15 min ago	MEDIUM	APAC - India - INDIA - Jaipur - Jaipur Heart Institute	CV_49033396_1642_FD10	17 Feb 2015
<input type="checkbox"/>	12 min ago	LOW	APAC - India - INDIA - Guwahati - HAYAT HOSPITAL	CV_58462267_429_ALLURA_FD20/20	17 Feb 2015
<input type="checkbox"/>	4 min ago	LOW	APAC - Japan - JAPAN - Hiroshima - Chugoku Rosai Hospital	CV_35151970_441_FD20/ROOM8	17 Feb 2015
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Administration

Logout



DRAFT

# RADAR

Name

Password

Modality ▾

Remember me

[Sign in](#)

[Register](#)

[Forgot your password?](#)

