Eplanner Software for Machine Activities Management

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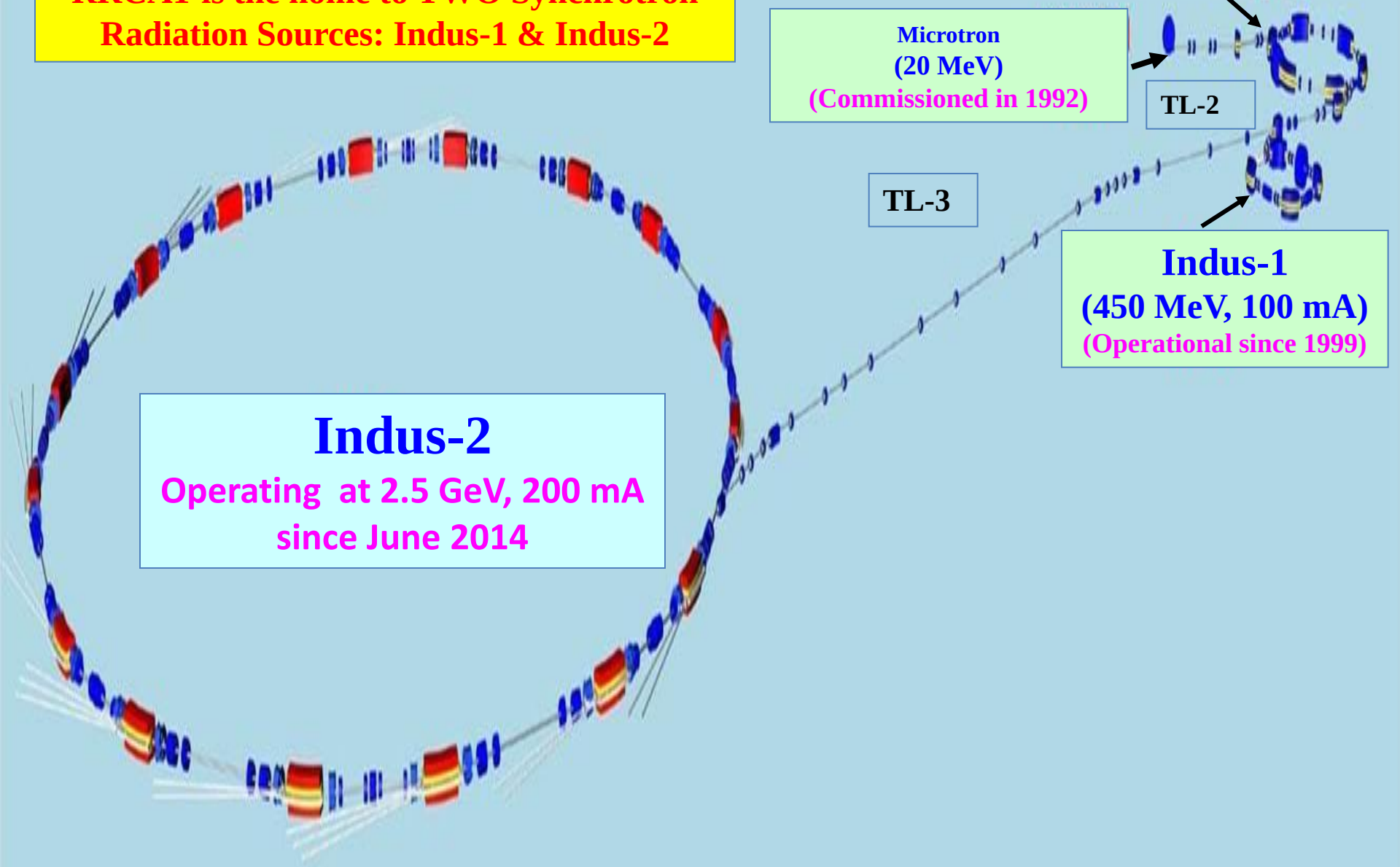
INDUS-2 COMPLEX

Schematic View of Indus Complex

RRCAT is the home to TWO Synchrotron Radiation Sources: Indus-1 & Indus-2



The Need

The need was felt for a system for easily managing various related activities for avoiding communication gaps among the crew members and clearly bringing out the important communications for machine operation.

ePlanner!

What is ePlanner ?

ePlanner is a web based software package for online management and dissemination of information related to machine operation of Indus-2.

Functions of ePlanner

Work Plan Management

- ✓Edit and log each day's plan of next one week in one go
- ✓Read only View of old date work plans
- ✓Storing each entries with timestamp and user name
- ✓Searching of historical work plans in chronological order
- ✓Quick View of Current Work Plans
- ✓Auto assign one day old plan as Today's Work Plan
- ✓Auto refreshed 'Today's Work Plan' formatted for Large Size Displays

Beamline Booking Management

- ✓Multiple beamline booking in one go
- ✓Option for beamline under commissioning
- ✓Unlimited days booking in steps of two weeks
- ✓Undo option
- ✓Booking Disabled for Shutdown days
- ✓Booking Search in chronological order
- ✓Quick View of Current Bookings

Machine Shutdown Management

- ✓ Two week shutdown booking in one go
- ✓ User Friendly User Interface (Checkboxes)
- ✓ Unlimited days shutdown bookings
- ✓ Undo option
- ✓ Activity Search in chronological order

Standing Instructions Management

- ✓ Standing Instruction for each group
- ✓ Online Rich Text Formatting
- ✓ Search in chronological order
- ✓ Quick View of Current Standing Instructions

Electronic Noticeboard (eNoticeboard)

- ✓ Standing Instruction for Today
- ✓ Reminder
- ✓ Important Note
- ✓ Search facility

Information Display

- ✓ Auto refreshed pre scheduled work plan display on Large Size Display Panel in Indus Control Room
- ✓ Auto refreshed Today's Standing Instruction display on Large Size Display Panel in Indus Control Room
- ✓ Auto refreshed Scrolling Message (Important Note) display on Large Size Display Panels installed at various locations of Indus premises
- ✓ Current Work Plans, Beamline Bookings, Shutdown details, Notices, Standing Instructions, etc. on IndusOnLine (SRS) website

Indus Fault Logbook (FLogbook)

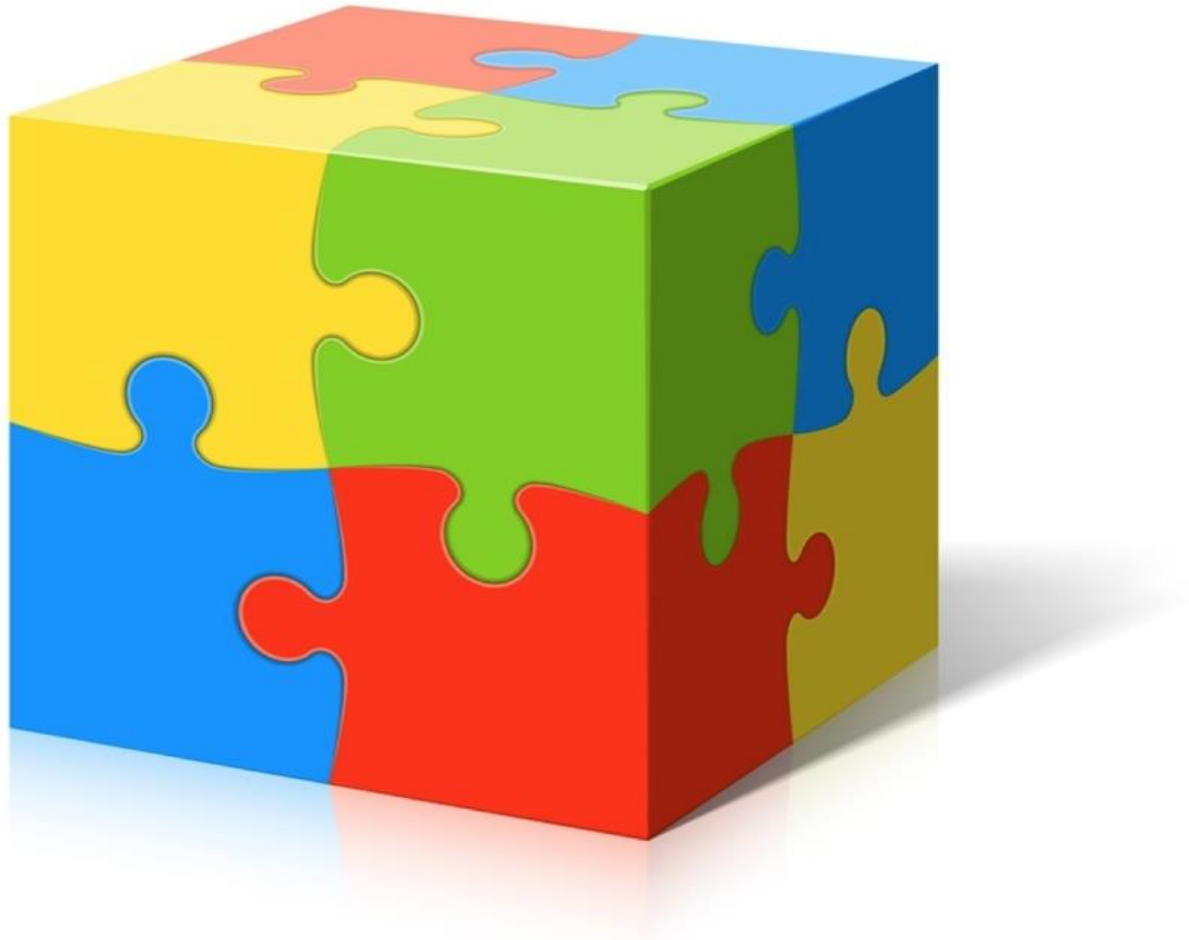
This application was developed before ePlanner for tracking the faults occurring during round the clock operations of Indus-1 & Indus-2.

Now it is felt to merge the functionality of Flogbook with ePlanner so that all the information could be managed from a single software package.

Salient Features of FLogbook

- Authenticated Service
- Snapshot Grabbing & Logging
- Comments from System Experts
- Editing Lock & Fault Deletion
- Email with Attachment
- Searching option with 'Text String'
- Report Generation in Microsoft Word Format

ePlanner's Building Blocks



JavaServer Pages (JSP)

JSP technology enables rapid development of Web-based applications that are platform independent.

JSP technology separates the user interface from content generation, enabling designers to change the overall page layout without altering the underlying dynamic content.

JavaBeans

JavaBeans components (beans) are reusable software programs that we can develop and assemble easily to create sophisticated applications. These web resources reside in middle tier.

SQL Database

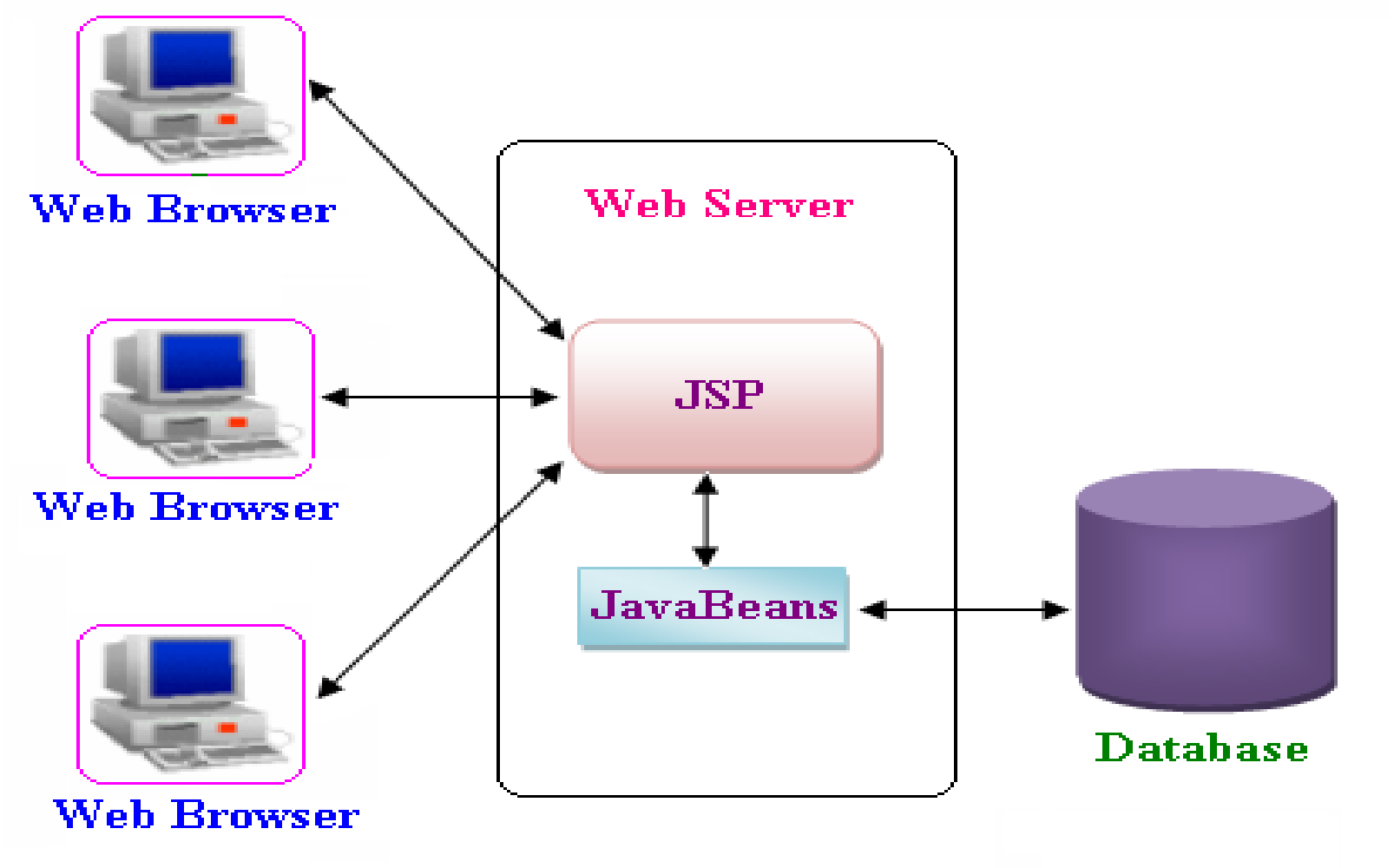
Microsoft SQL Server based relational database is designed to implement the data tier of ePlanner, which stores the complete information in related tables.

Web Server

Apache Tomcat

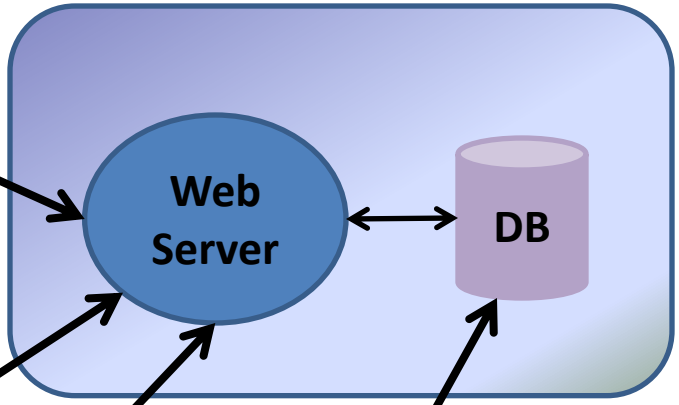
We have used Apache Tomcat web server for executing & serving web components of ePlanner. Apache Tomcat is an open source web server developed by the Apache Software Foundation (ASF).

Software Architecture



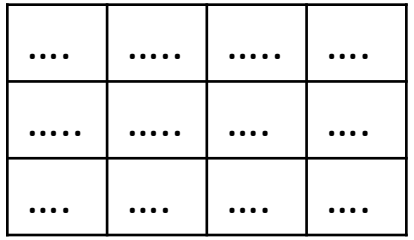
Information Flow

Data updatation



Information Display

- Auto refreshed and formatted for Large size Displays.
- Multiple data in a single scrolling page
- Work Plan, Standing Instructions, Beamline Bookings

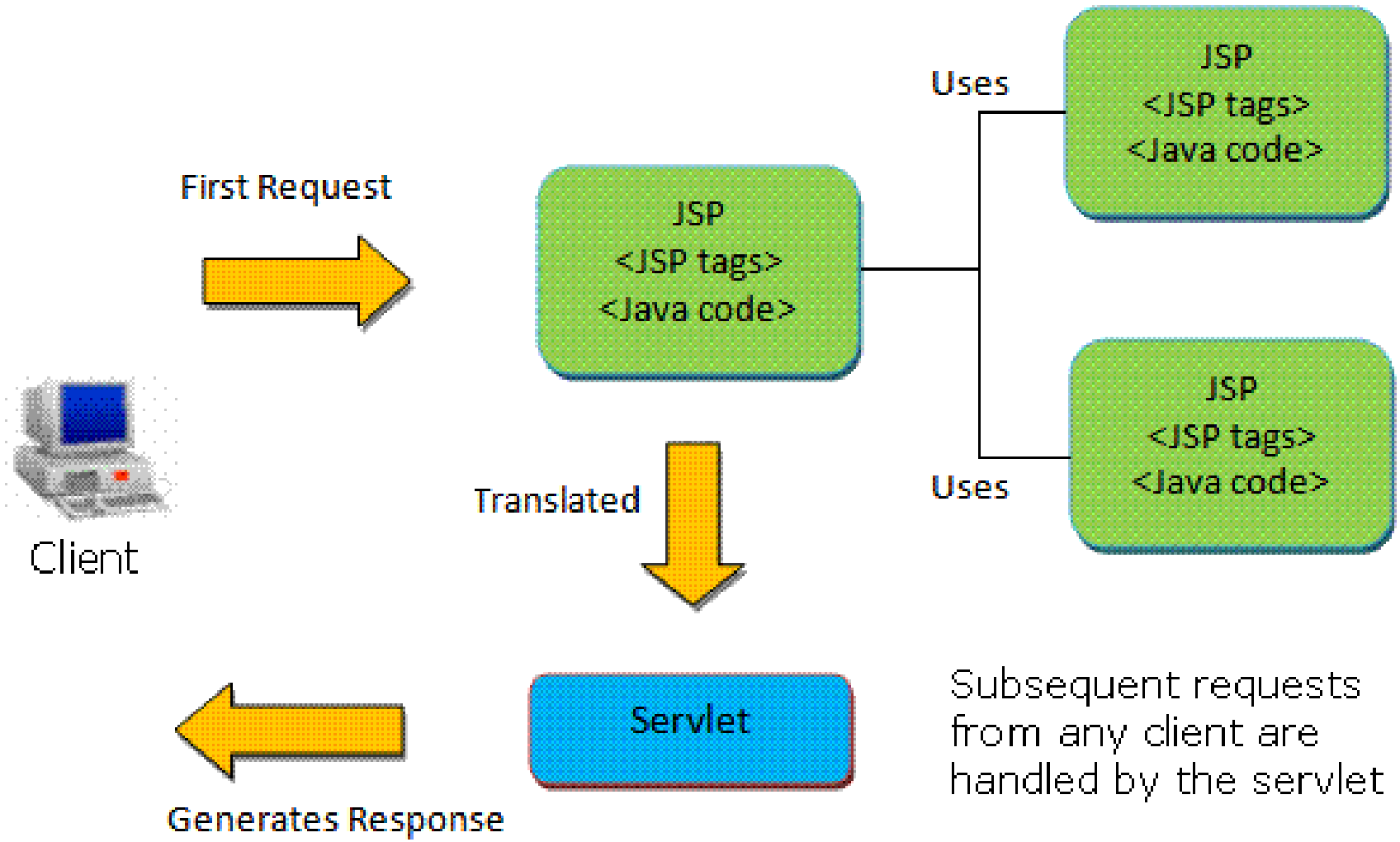


Pre planned work activities

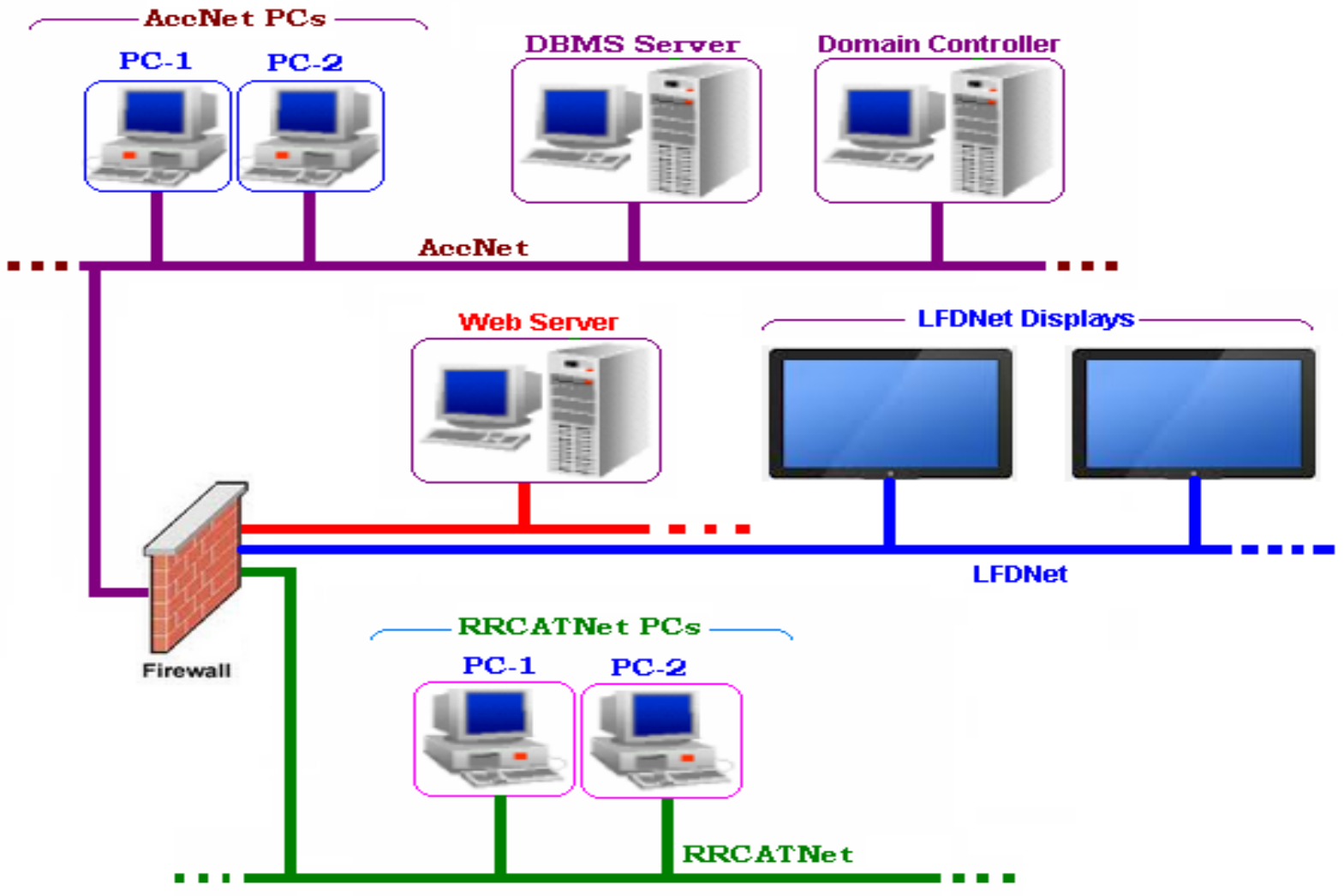
View Clients

- Any user through our **IndusOnLine** web-site.
- view and search: beam line bookings, operation plan, standing instructions, etc.

Execution of a JSP



Software Accessibility Over LAN



Users' Machine's Requirement?

To access this software users' machine must be connected with Campus Network (RRCATNet) or Accelerator Network (AccNet) and must have a Web browser installed.

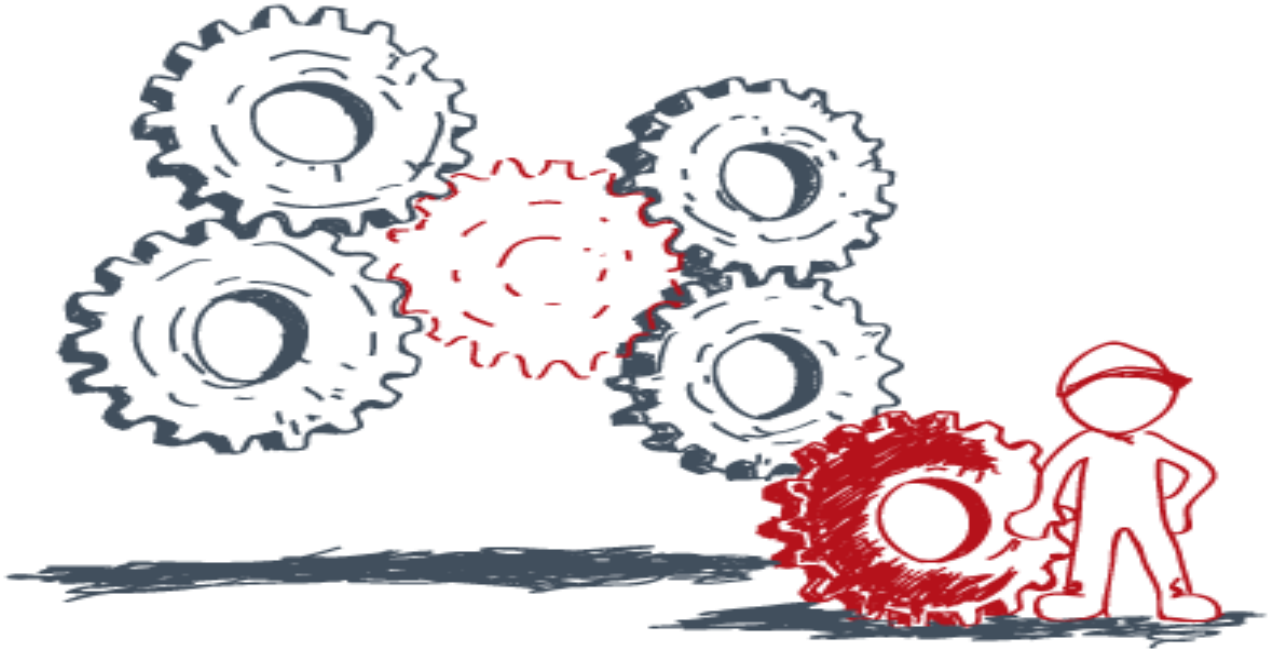
How to reach?

http://srs.cat.ernet.in/ePlanner

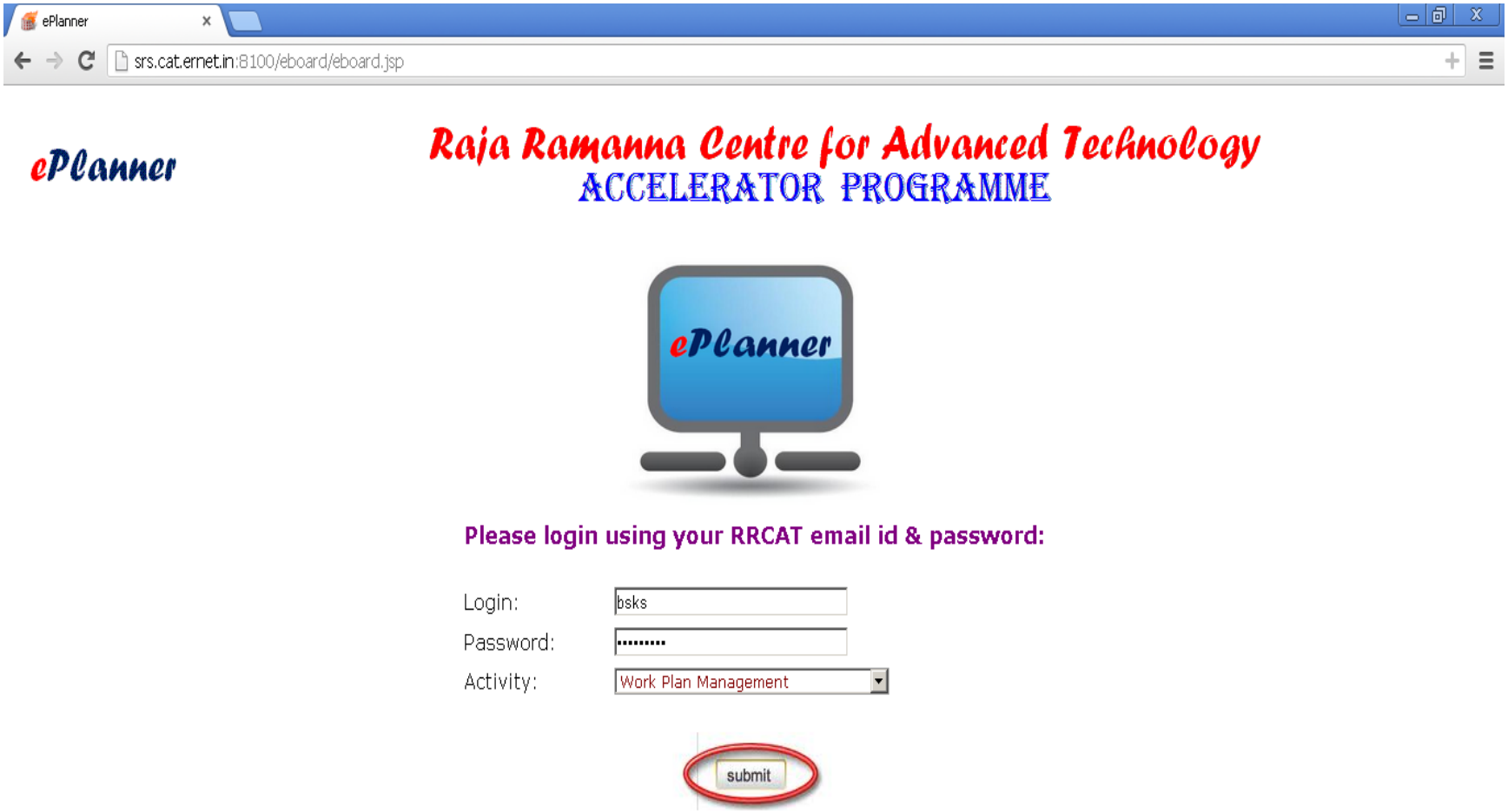
ePlanner Authentication

- User's credentials are verified from RRCAT email server.
- This was done to avoid storing duplicate credentials on AccNet Server.
- Each module has different user group.

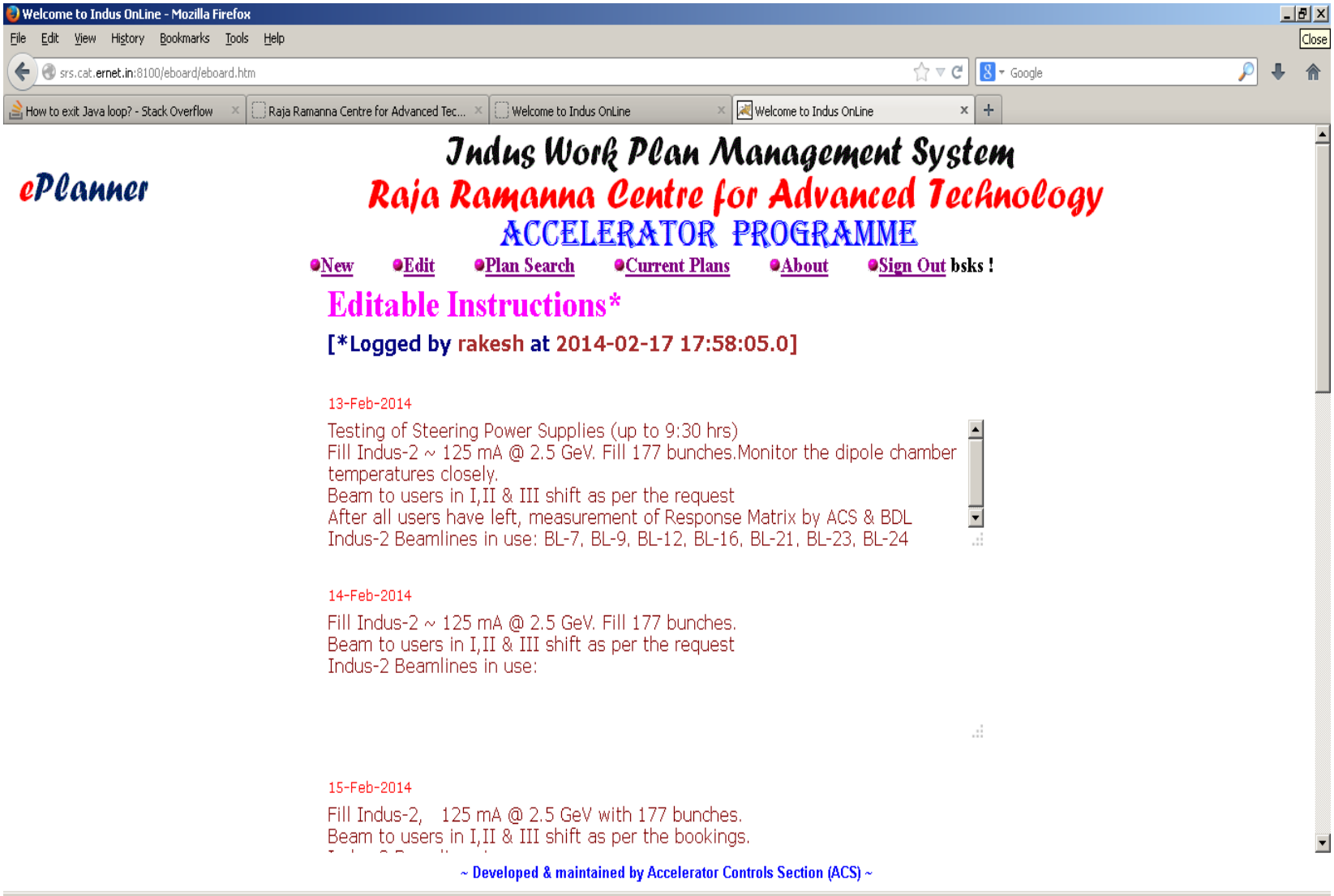
ePlanner in Action (Screenshots)



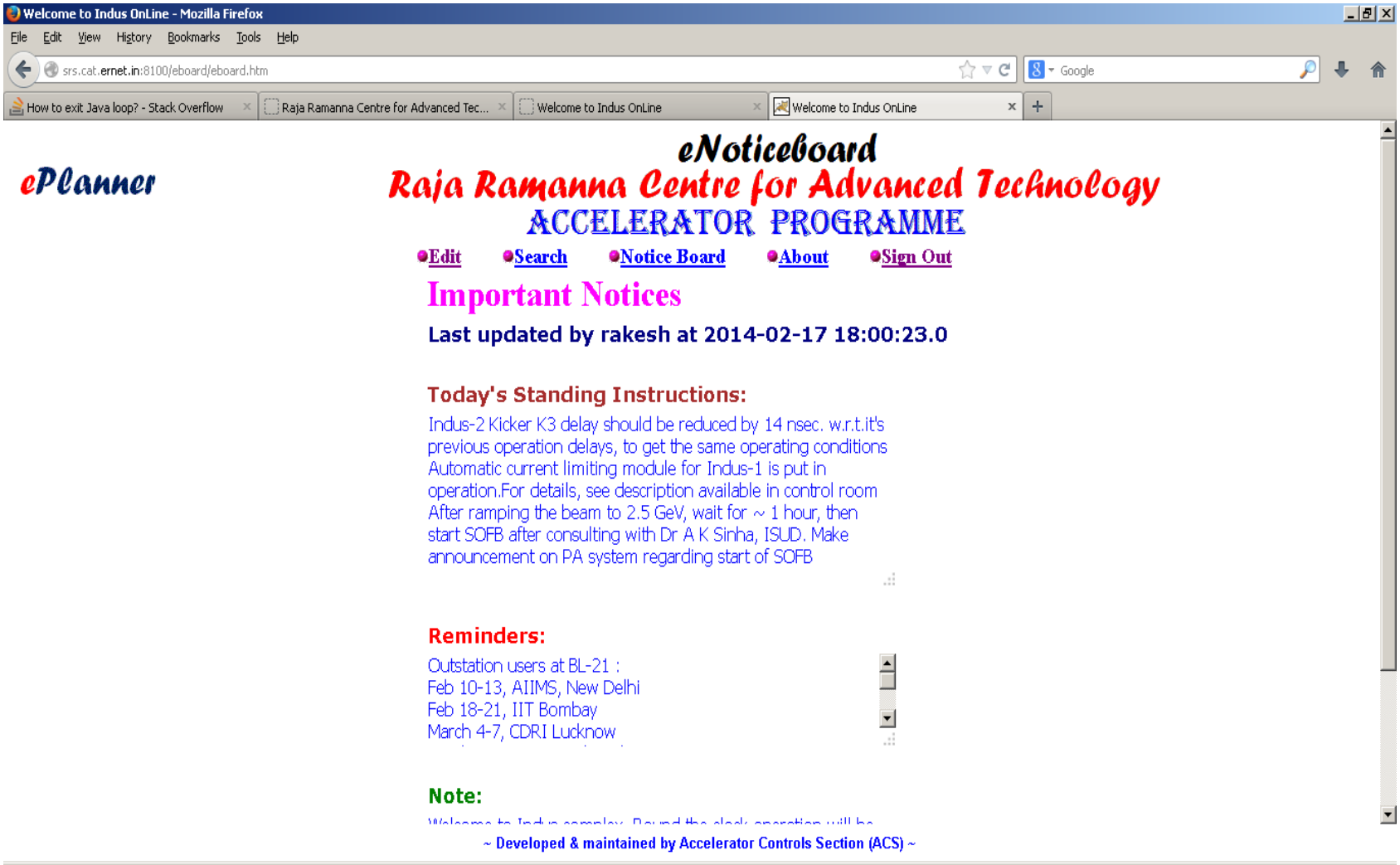
Authentication Page



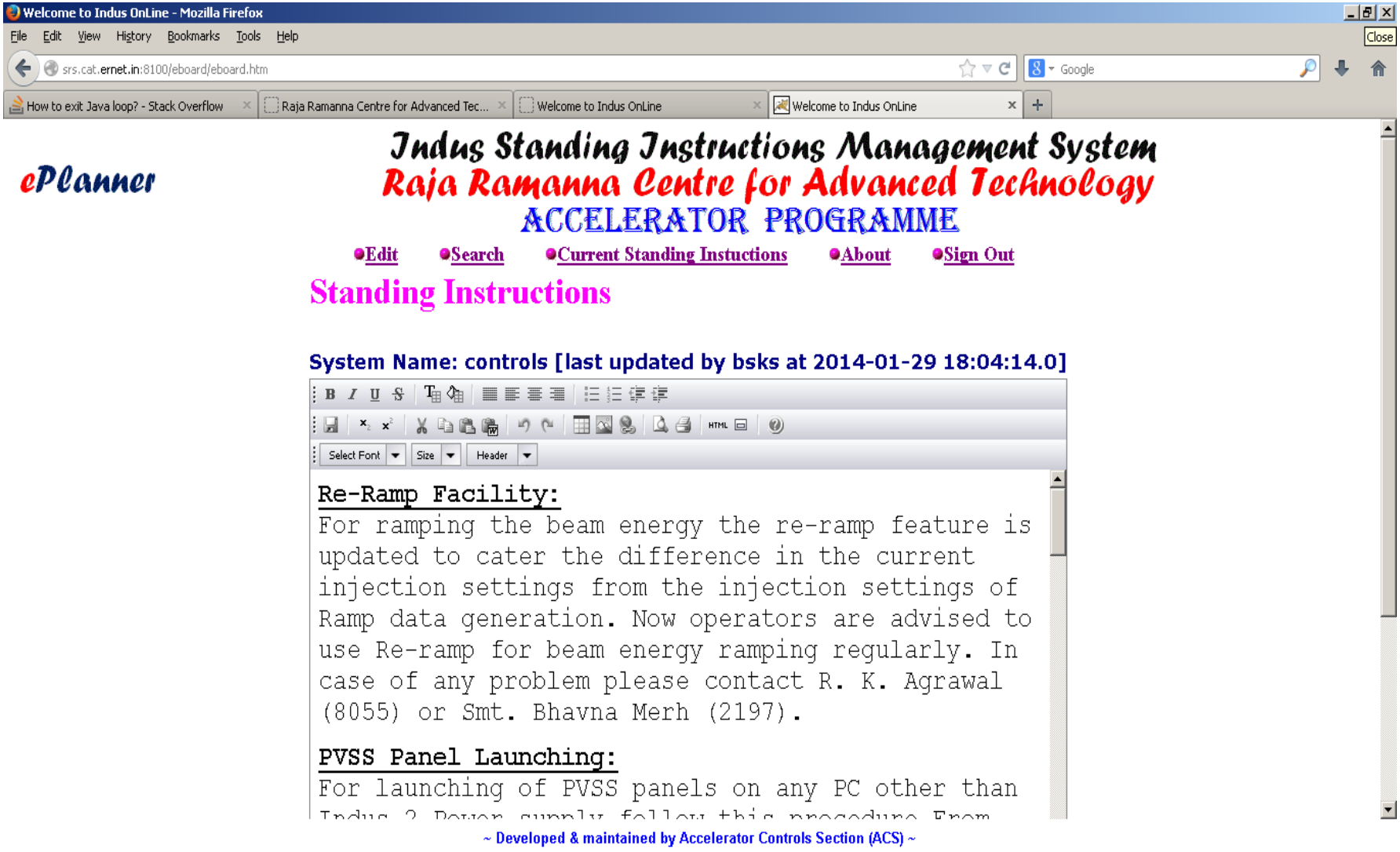
Work Plan Editing Page



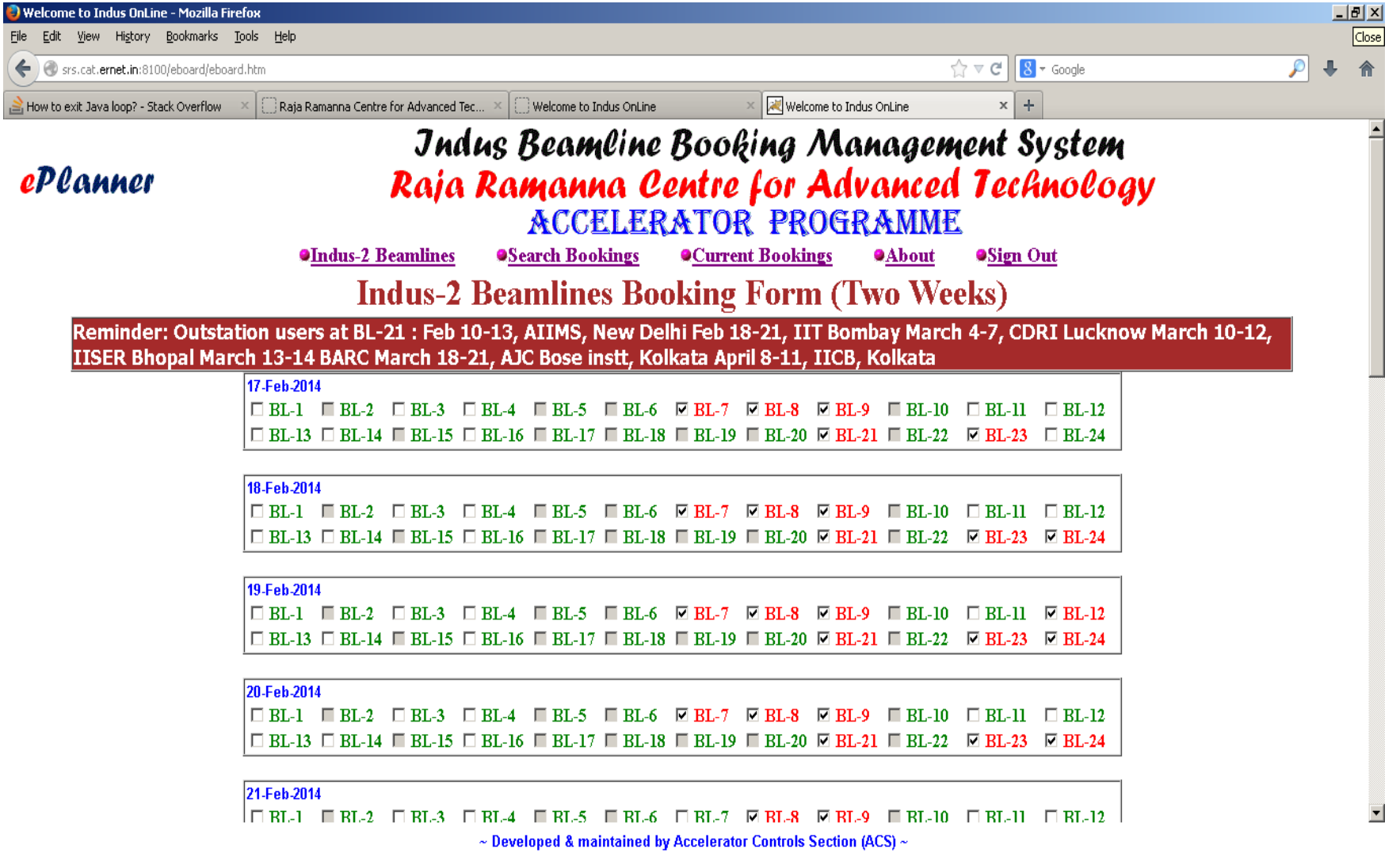
eNoticeBoard



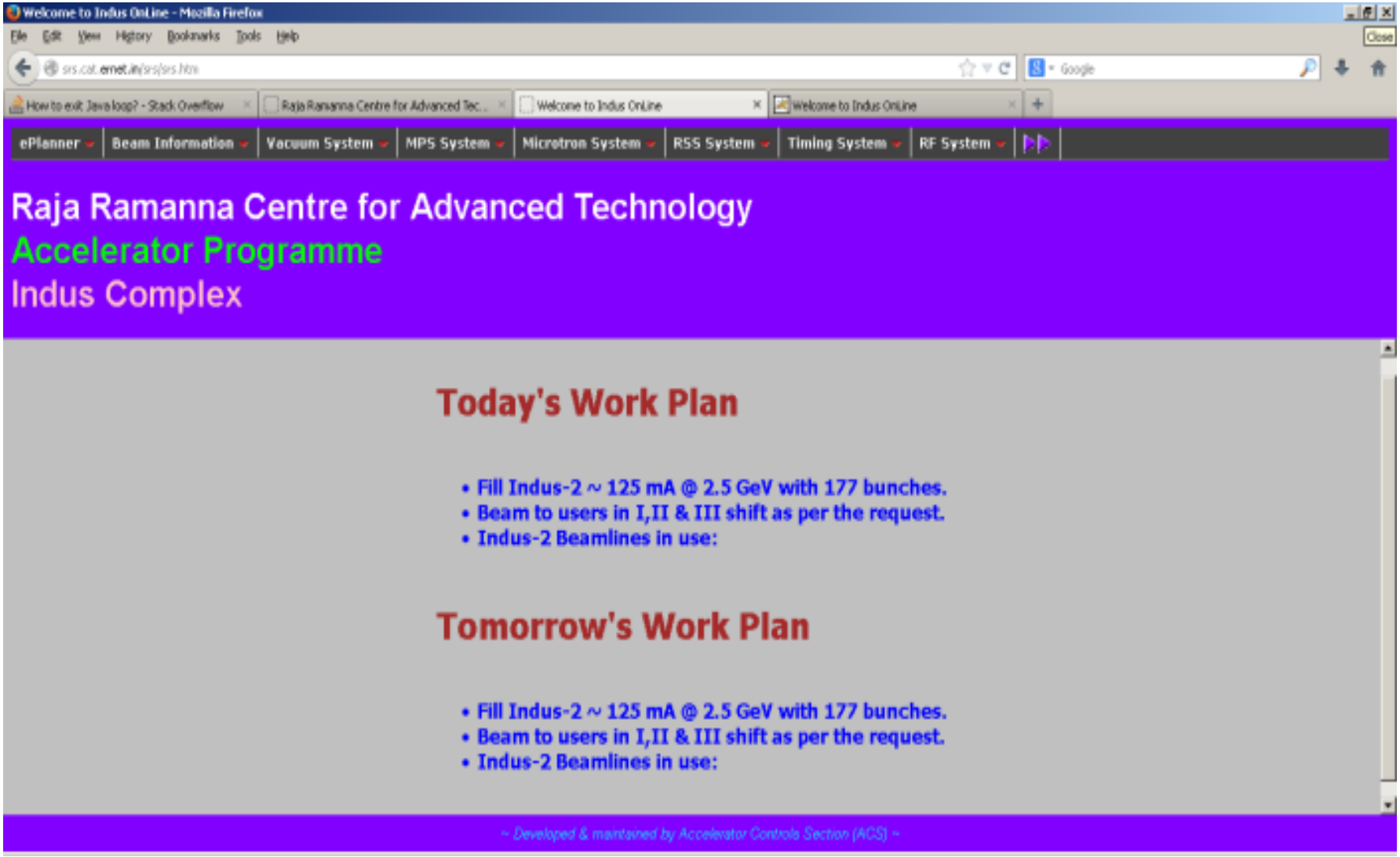
Standing Instructions Editing Page



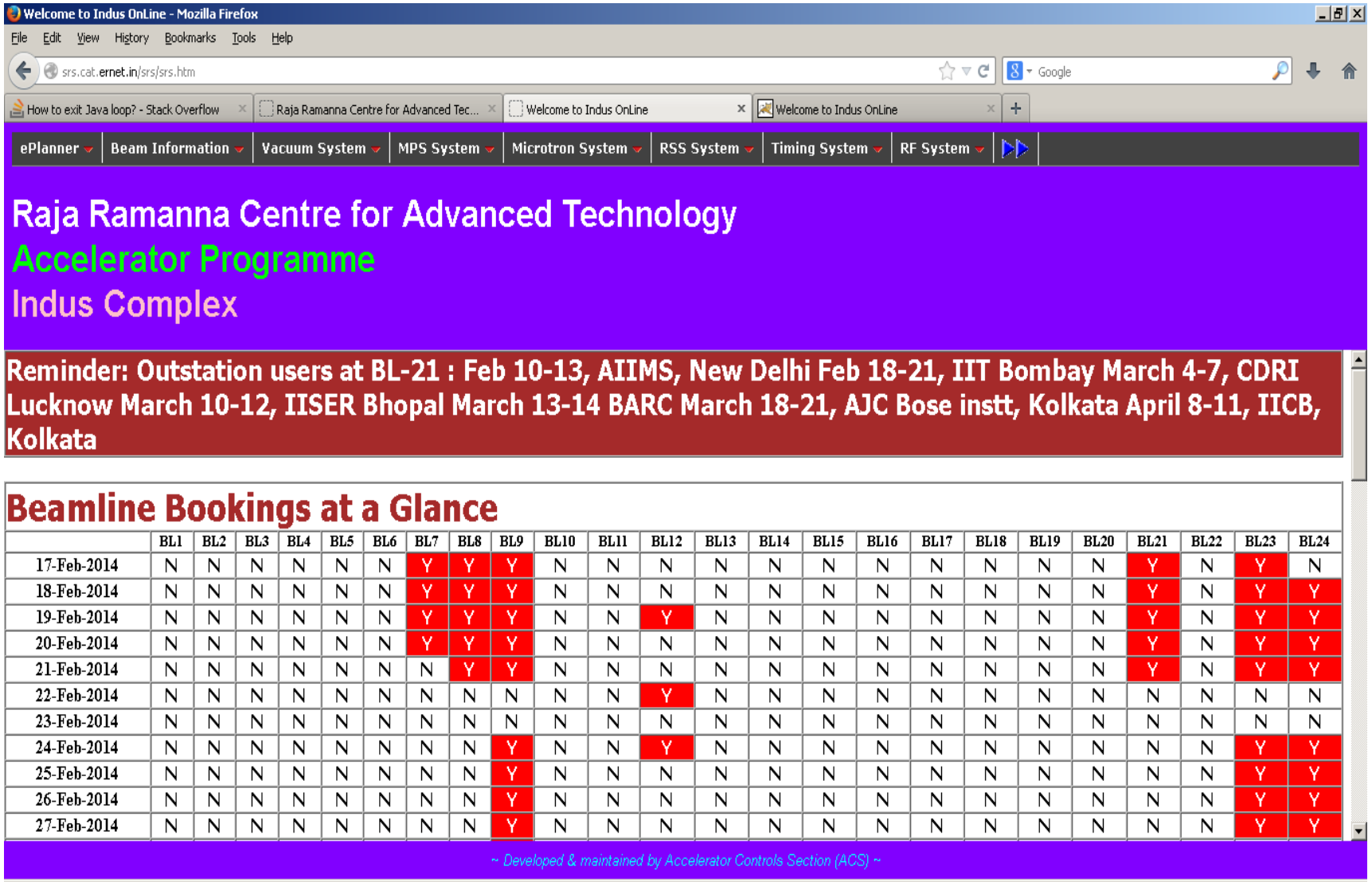
Beamline Booking Page



Current Work Plans



Beamline Booking at a Glance

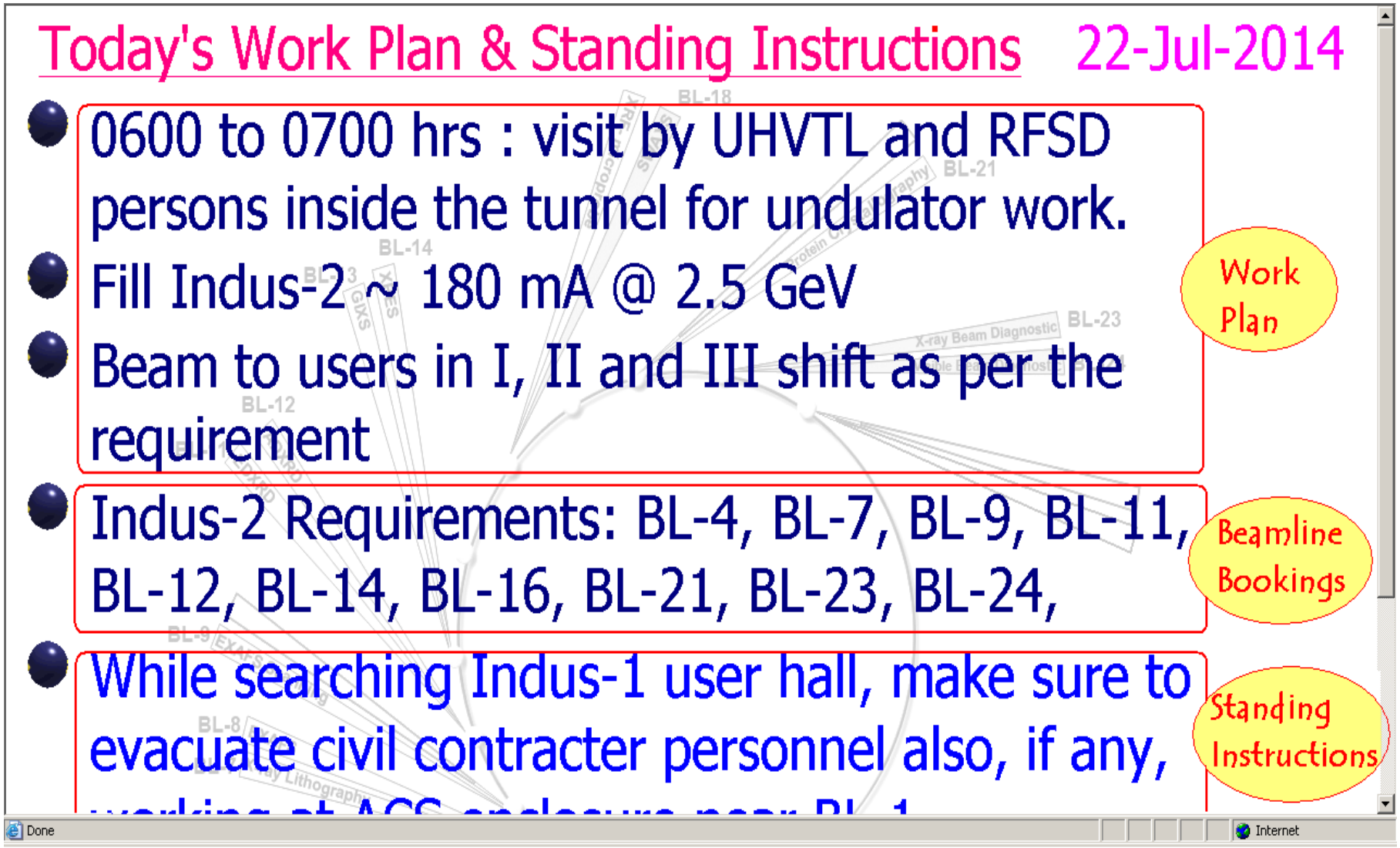


Beamline Bookings at a Glance

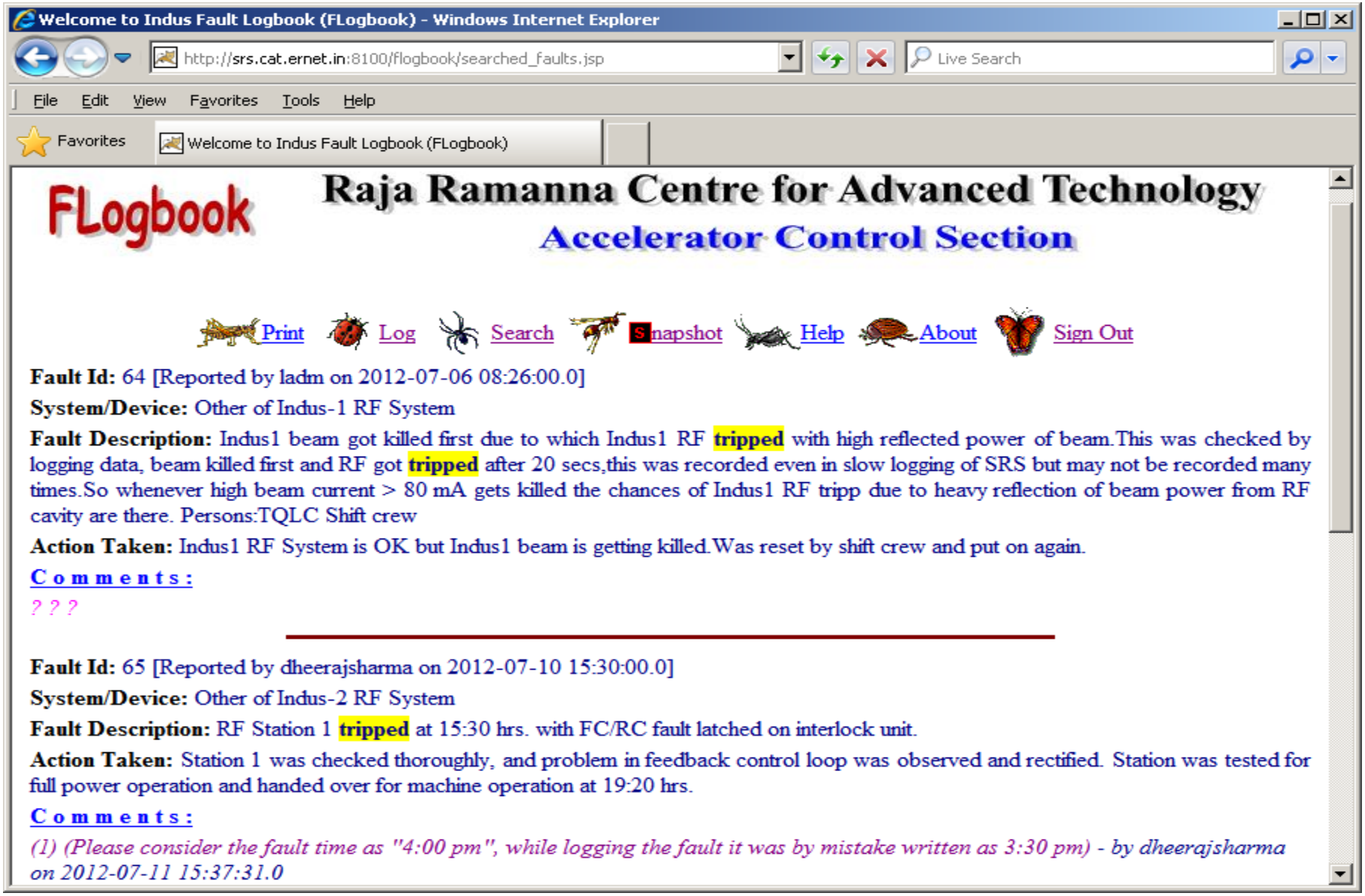
	BL1	BL2	BL3	BL4	BL5	BL6	BL7	BL8	BL9	BL10	BL11	BL12	BL13	BL14	BL15	BL16	BL17	BL18	BL19	BL20	BL21	BL22	BL23	BL24
17-Feb-2014	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	N
18-Feb-2014	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	Y
19-Feb-2014	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	Y	N	Y	Y
20-Feb-2014	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	Y
21-Feb-2014	N	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	Y
22-Feb-2014	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
23-Feb-2014	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
24-Feb-2014	N	N	N	N	N	N	N	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	Y
25-Feb-2014	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
26-Feb-2014	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
27-Feb-2014	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y

~ Developed & maintained by Accelerator Controls Section (ACS) ~

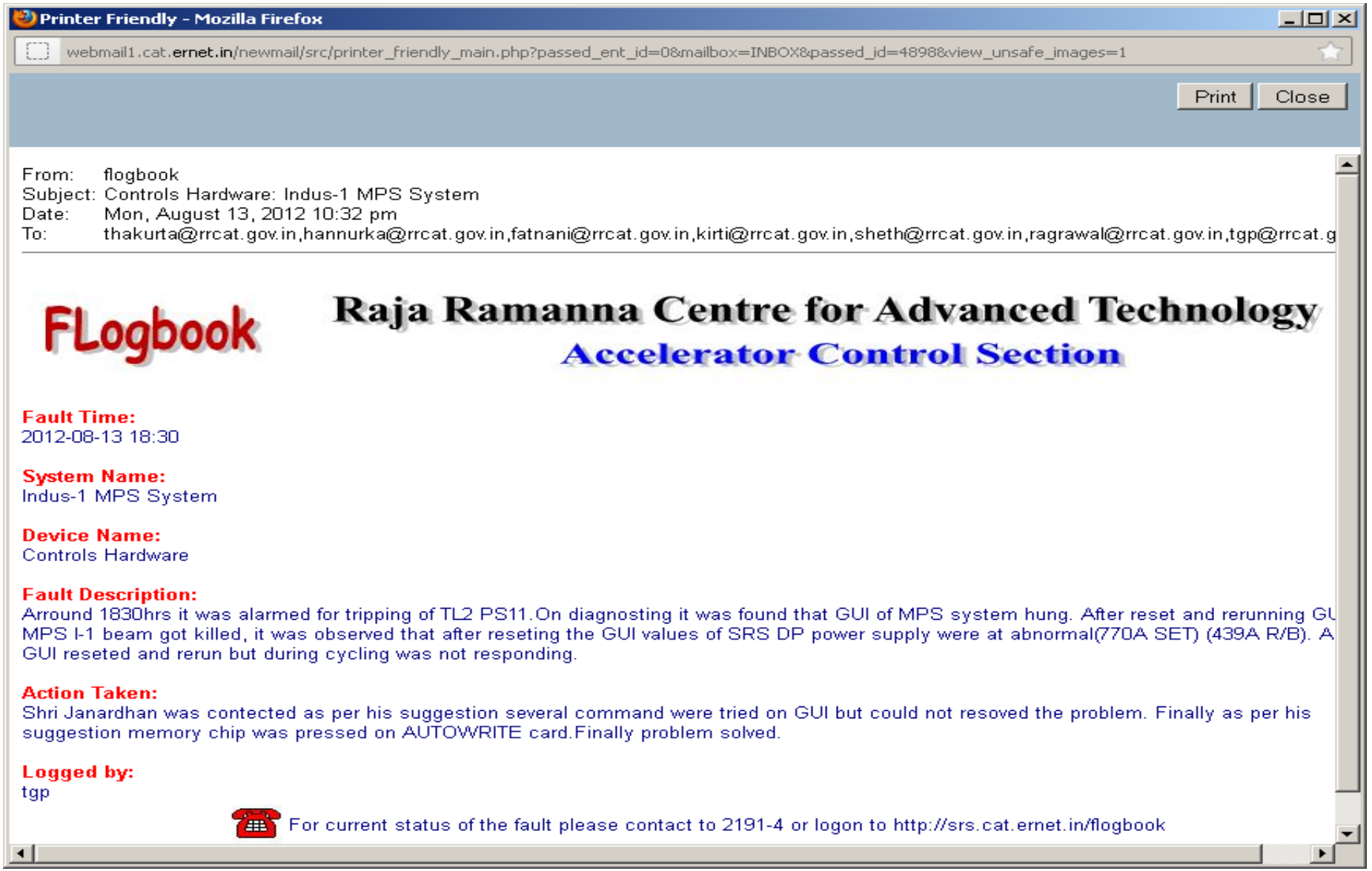
Today's Work Plan & Standing Instructions



Data Search using FLogbook



Email message generated from FLogbook



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webmail1.cat.ernet.in/newmail/src/printer_friendly_main.php?passed_ent_id=0&mailbox=INBOX&passed_id=4898&view_unsafe_images=1

Print Close

From: flogbook
Subject: Controls Hardware: Indus-1 MPS System
Date: Mon, August 13, 2012 10:32 pm
To: thakurta@rrcat.gov.in,hannurka@rrcat.gov.in,fatnani@rrcat.gov.in,kirti@rrcat.gov.in,sheth@rrcat.gov.in,ragrawal@rrcat.gov.in,tgp@rrcat.g

FLogbook

Raja Ramanna Centre for Advanced Technology

Accelerator Control Section

Fault Time:
2012-08-13 18:30

System Name:
Indus-1 MPS System

Device Name:
Controls Hardware

Fault Description:
Arround 1830hrs it was alarmed for tripping of TL2 PS11.On diagnosting it was found that GUI of MPS system hung. After reset and rerunning GU MPS I-1 beam got killed, it was observed that after reseting the GUI values of SRS DP power supply were at abnormal(770A SET) (439A R/B). A GUI reseted and rerun but during cycling was not responding.

Action Taken:
Shri Janardhan was contected as per his suggestion several command were tried on GUI but could not resoved the problem. Finally as per his suggestion memory chip was pressed on AUTOWRITE card.Finally problem solved.

Logged by:
tgp

For current status of the fault please contact to 2191-4 or logon to http://srs.cat.ernet.in/flogbook

Developed JavaBeans for ePlanner

Sr. No.	Name	Functions
1	EboardQueryFormBean	Form's components
2	EboardMailBean	Authentication
3	EboardDatabaseBean	Database interactions
4	FlogMultipartBean	File uploading
5	FlogWordBean	Word document
6	FlogMailBean	Emails

Programming Languages Used

- HTML (User Interface)
- Java (JSP, JavaBeans, JDBC, JavaMail)
- SQL (data logging & retrieving)
- JavaScript (Form validation)


THANK
YOU