Presentation scheme

• Biometric attendance system at IIT Bombay
• Group biometric attendance
• Software tools for managing group biometric attendance
• Live demonstration / training
• On-site training on 26/12. Please fill schedule form.
Biometric attendance at IITB

How does it work

I-card office issues biometric ID cards (card has stored fingerprint templates)

BM readers are installed at various offices

User brings I-card close to the reader

User presses registered finger

Allowed message

match

Failed message

No-match
Biometric attendance at IITB

How does it work

Attendance data is stored in a central database.

Attendance software suite resides on central server.

Attendance records viewed by users on a web browser.
Group biometric attendance

Biometric attendance of defined groups

- Where groups are defined by end-user(?)

Example of groups

- BTech/MSc/DD/MTech/PhD.. (Students, batch wise)
- Project1, Project2, ..... Project staff
- Dept1, dept2, sections, ..... Institute staff members
- Group-A, Group-B, Group-C, ..... staff by groups
- Contract, daily wage, casual labor ..... (without I-card)
- Any mix of above entities
Group biometric attendance

Definition of terms
• Group biometric attendance (Group BM attendance, GBMA)
• Attendance manager
• Group members
• Software suite
• Surveys@IITB
• Enrollment tool
• BM attendance tool
Features of GBMA system

• Attendance managers can define a group for BM attendance according to their requirement
• May associate one or more BM readers (at different locations) with a group.
• Individuals (staff /students) can be members of more than one BM attendance group
• Individual BM readers can be simultaneously used by multiple groups
• Allows BM attendance of contract and daily wage workers
• Allows award of manual attendance if employee is unable to punch BM attendance
Creating groups in BM attendance
Group biometric attendance

Create the group whose BM Attendance is required
Group biometric attendance

Create the group whose BM Attendance is required

Name it
Group biometric attendance

Create the group whose BM Attendance is required

Name it

Assign an Attendance manager
Group biometric attendance

Create the group whose BM Attendance is required

Name it

Assign an Attendance manager

Add members
Group biometric attendance

Create the group whose BM Attendance is required

Name it

Assign an Attendance manager

Add members

Associate terminal Location
Group biometric attendance

Create the group whose BM Attendance is required

Name it

Assign an Attendance manager

Add members

Associate terminal Location

Get attendance reports
Group biometric attendance

Name:
BM Attendance ASC

Add members
Assign an Attendance manager
Get attendance reports
Associate terminal Location
Group biometric attendance

Add members

Attendance manager

SVETAL

BM Attendance ASC

Get attendance reports

Associate terminal

Location
Group biometric attendance

BM Attendance ASC

Add members

Location
MA-G14
(ASC office)

SVETAL

Get attendance reports

### Table: Attendance Report

<table>
<thead>
<tr>
<th>User ID</th>
<th>Name</th>
<th>Date</th>
<th>Weekday</th>
<th>In 9-12</th>
<th>12-3</th>
<th>3-6</th>
<th>6-9</th>
<th>Total Working Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alita Williams</td>
<td>2008/04/04</td>
<td>Friday</td>
<td>9:17:12</td>
<td>3:00:00</td>
<td>4:59:59</td>
<td>9:17:12</td>
<td>0:00:00</td>
</tr>
<tr>
<td>2</td>
<td>Jane Smith</td>
<td>2008/04/10</td>
<td>Monday</td>
<td>9:00:00</td>
<td>3:00:00</td>
<td>4:59:59</td>
<td>9:00:00</td>
<td>0:00:00</td>
</tr>
<tr>
<td>3</td>
<td>Robert Lee</td>
<td>2008/04/15</td>
<td>Tuesday</td>
<td>9:00:00</td>
<td>3:00:00</td>
<td>4:59:59</td>
<td>9:00:00</td>
<td>0:00:00</td>
</tr>
<tr>
<td>4</td>
<td>Anne Johnson</td>
<td>2008/04/20</td>
<td>Wednesday</td>
<td>9:00:00</td>
<td>3:00:00</td>
<td>4:59:59</td>
<td>9:00:00</td>
<td>0:00:00</td>
</tr>
<tr>
<td>5</td>
<td>Michael Brown</td>
<td>2008/04/25</td>
<td>Thursday</td>
<td>9:00:00</td>
<td>3:00:00</td>
<td>4:59:59</td>
<td>9:00:00</td>
<td>0:00:00</td>
</tr>
<tr>
<td>6</td>
<td>Sarah Davis</td>
<td>2008/04/30</td>
<td>Friday</td>
<td>9:00:00</td>
<td>3:00:00</td>
<td>4:59:59</td>
<td>9:00:00</td>
<td>0:00:00</td>
</tr>
</tbody>
</table>

Total: 0:00:00
Group biometric attendance

BM Attendance ASC

Members
All ASC staff

SVETAL

MA-G14
(ASC office)

Get attendance reports
Group biometric attendance

BM Attendance ASC

All ASC staff

MA-G14 (ASC office)

SVETAL

Get attendance for ASC

Get attendance for ASC

Biometric Attendance

<table>
<thead>
<tr>
<th>EmployedID</th>
<th>Name</th>
<th>count</th>
<th>Set 5 Sun</th>
<th>Holiday</th>
<th>2013-12-02</th>
<th>2013-12-03</th>
<th>2013-12-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>110107</td>
<td>Dharmendra</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<tr>
<td>120092</td>
<td>Sugandhi</td>
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<td>0</td>
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<td>0</td>
<td>1</td>
<td>0</td>
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<td>130116</td>
<td>Dhandralan</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<td>140117</td>
<td>Senoth</td>
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<td>0</td>
<td>1</td>
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<tr>
<td>150010</td>
<td>Manohar</td>
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<tr>
<td>160001</td>
<td>Prav Patel</td>
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<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>170006</td>
<td>Lax Jatin</td>
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<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>180007</td>
<td>Saneer A.</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Group biometric attendance

BM Attendance ASC

All ASC staff

MA-G14 (ASC office)

Attendance manager

SVETAL

Get attendance for ASC

For group

<table>
<thead>
<tr>
<th>EmployeeID</th>
<th>Name</th>
<th>Total Count</th>
<th>2013-12-02</th>
<th>2013-12-03</th>
<th>2013-12-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>100020</td>
<td>Sunita</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>100021</td>
<td>Anurag</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>100022</td>
<td>Prasad</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>100023</td>
<td>Shriya</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Group biometric attendance

BM Attendance ASC

Members
- All ASC staff

SVETAL

Get attendance for ASC

MA-G14
(ASC office)

For individuals

Get attendance for ASC

Biometric Attendance

<table>
<thead>
<tr>
<th>EmployeeID</th>
<th>Name</th>
<th>count</th>
<th>Set Sun</th>
<th>Holiday</th>
</tr>
</thead>
<tbody>
<tr>
<td>101057</td>
<td>Dharmendra S</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>101352</td>
<td>Sugandhi</td>
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<td>6</td>
<td>0</td>
</tr>
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<td>1016116</td>
<td>Drishankant</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>101117</td>
<td>Santosh</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>100010</td>
<td>Manohar</td>
<td>1</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>100881</td>
<td>Priya Patel</td>
<td>2</td>
<td>6</td>
<td>0</td>
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<tr>
<td>100867</td>
<td>Lisa Justin</td>
<td>1</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>101085</td>
<td>Sanaa A.</td>
<td>4</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>
Software suite for managing group biometric attendance
## Software suite for group-BMA

<table>
<thead>
<tr>
<th>Activity</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create groups</td>
<td>Surveys@IITB ...(moodle)</td>
</tr>
<tr>
<td>Add members</td>
<td>Enrollment tool</td>
</tr>
<tr>
<td>Associate BM readers</td>
<td>BM attendance tool</td>
</tr>
<tr>
<td>Manage BM attendance</td>
<td>BM attendance tool</td>
</tr>
<tr>
<td>View BM attendance</td>
<td>BM attendance tool</td>
</tr>
</tbody>
</table>
Software suite for group-BMA

1. Surveys@IITB
   Groups are created here
   Available at: http://surveys.iitb.ac.in

2. Enrollment tool
   To enroll members
   Available at: http://portal.iitb.ac.in/moodle

3. BM attendance tool
   Manage/view attendance
   Available within: http://surveys.iitb.ac.in
Group biometric attendance

One time task (by HoD/PI/designated staff):
• Create BM attendance group(s) in Surveys@IITB
• Assign group manager

One time task for group manager:
• Enroll group members
• Associate BMA readers with the group
• Manage BM attendance of temporary workers
  – Create temporary ID in biometric attendance table
  – Register fingerprint directly on reader
BMA for contract workers

Problems:
• BMA is based on a BM ID card
• Contract workers do not have a regular ID card
• Contract workers do not have employee code

Solution:
• Provide an unique temporary code to contract and daily wage workers
• Enroll them by using their temporary employee code
• Enroll their finger print directly on BMA reader (a feature available on all BM readers).
Hardware features of BM readers

Allowed options for authentication
  – Card + fingerprint
  – Card only
  – Fingerprint only

• All readers on a central network
• Simultaneous use for access control
• Mutually exclusive operation for access control and BM attendance on the same device.
• Centrally synchronized time (GPS time server)
• Local spooling of attendance during network failure
What is Surveys@IITB

- Open source software moodle ... (LMS) (screenshot)
- Login available to all IITB staff & students (LDAP)
- Login by non-LDAP users ...(local to Surveys@IITB)
- Self service software for multiple activities
  - Questionnaires, Surveys
  - Content sharing within groups
  - Discussion forums, wiki, blogs
  - Group biometric attendance
Points to be covered in the demo

1. Login to Surveys@IITB (user account, BMA course)
2. Adding BM attendance tool to target group(course) in Surveys@IITB
3. **Group vis-a-vis Course** in Surveys@IITB
4. Enroll members in BMA course
5. Associate BM readers to BMA course
6. Create temporary ID for contract workers
7. Add contract workers as group members
8. View and download attendance reports
On-site training

Managing attendance of contract workers

• Creating temporary employee code
• Entering temporary employee code of contract workers
• Enroll fingerprint directly on the reader
• Enroll finger of the Attendance manager as administrator
• Download BM attendance

Onsite training schedule!
Thank you

And sample screen shots
Sample screenshots

- Add external tool to BM attendance course
- Add BM reader to BM attendance readers
- Create temporary ID for contract workers
- Award manual attendance
- View attendance reports
- Sending messages and/or mails to all group members.
Add external tool

1. Login to Surveys@IITB

LDAP ID & Password
Add external tool

2. Select BM attendance course

Moodle Basics
Facilitator: Professor Incharge ASC
Facilitator: Sameer A. Hakim
Facilitator: Dr. Indira Koneru
Facilitator: ASC Test

Introduces various Moodle modules that are useful for managing online or blended learning courses.

Senate for Faculty Members
Teacher: Deputy Registrar Academic
Teacher: Hete Prasanna S.

This Surveys course contains senate proceedings starting from the 199th Senate meeting held on 28th July 2010.
To see agenda and minutes of earlier senate meetings, please visit:
http://moodle.iitb.ac.in/moodle2009/login/index.php

M.Tech. CSE 2012 Batch
Teacher: Uday P Khedker Khedker

M.Tech. CSE 2013 Batch
Teacher: Kameswari Chebrolu

BM Attendance ASC
Attendance Manager: Professor Incharge ASC
Attendance Manager: Sharat Chandran
Attendance Manager: Sarita P. Vetai

Biometric attendance for all ASC staff members

About Surveys@IIT Bombay

The IITB surveys portal based on moodle software has been created to facilitate conducting surveys, polls, questionnaires, quizzes, and in general obtaining feedback from IITB community. The 'surveys' portal may be used by faculty members and department/section heads to create courses (like moodle), enroll users(IITB staff and students), share content and conduct surveys and quizzes.

To enroll/unenroll participants
Click here

Kindly contact
surveys.help@iitb.ac.in
for assistance
Add external tool

3. Turn on editing
4. Click on ‘Add an activity or resource’
5. Select option to add external tool

Click at Add
Add external tool
6. Enter following particulars

- **Activity Name**: Enter name, e.g. BM Attendance for project T2KT
- **Launch URL**: http://portal.iitb.ac.in/asc/Attendance

**Privacy**
- Share launcher's name with the tool
- Share launcher's email with the tool
- Accept grades from the tool

**Common module settings**
- Visible: Show

Click here
<table>
<thead>
<tr>
<th>Topic 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

BM attendance tool has been added
Now add group members
Enroll group members by using enrollment tool available at http://portal.iitb.ac.in/moodle

Demo only
Management of course participants in Surveys@IIT Bombay

Login screen

LDAP Login ID :
Password :

Login Clear

Note: Course creators and teachers of surveys@IIT Bombay may use this interface to.

[1] Enrol users who may view shared content and participate in a survey.
[3] Create and enrol local users (users whose ID may not exist in IITB LDAP).
[4] Users must have created at least one course on surveys@IIT Bombay to be able to use this interface.
Powerful tool for selection of group members

Welcome to IITB Employee Selection Service. You can select a list of employees/students by selecting certain criteria (Department/Grade/Employee Type).

<table>
<thead>
<tr>
<th>IITB Staff [Basic]</th>
<th>IITB STAFF [Advanced Options]</th>
<th>IITB Faculty</th>
<th>IITB Student</th>
<th>IITB Functionaries</th>
<th>Single LDAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ ALL IITB Non-Teaching Staff</td>
<td>GET LIST</td>
<td>☐ ALL IRCC Project Staff</td>
<td>GET LIST</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Select criteria for Institute Staff:

- Department Wise
- Group Wise
- Grade Pay Wise
- Post Wise
- [OK]

Select Staff based on IRCC Project Code:
- [ ] Self Projects

Select staff based on PI Wise:
- [ ] Department PI With Projects
- [ ] GET LIST

---

---
Now add BM attendance readers (terminals) to the group

Click at the BM attendance tool
Add BM attendance readers(1)

1. Search or scroll to find readers

2. Drag & drop one or more readers
Add BM attendance readers

3. Click at update

Selected BM readers seen here
Create temp. ID for contract workers

Enter name
Enter email ID
Click here
View all temporary IDs

List of contract workers

Search

<table>
<thead>
<tr>
<th>Employee ID</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>T00005</td>
<td>Test User</td>
<td><a href="mailto:a@b.c.com">a@b.c.com</a></td>
</tr>
<tr>
<td>T00001</td>
<td>Test User</td>
<td><a href="mailto:TU1@a.b.com">TU1@a.b.com</a></td>
</tr>
<tr>
<td>T00003</td>
<td>Test User</td>
<td><a href="mailto:TU2@a.b.com">TU2@a.b.com</a></td>
</tr>
<tr>
<td>T00002</td>
<td>Test User-2</td>
<td><a href="mailto:TU3@a.b.com">TU3@a.b.com</a></td>
</tr>
<tr>
<td>T00004</td>
<td>Test User-2</td>
<td><a href="mailto:TU4@a.b.com">TU4@a.b.com</a></td>
</tr>
</tbody>
</table>

Displayed list can be sorted

Click on Pane to expand
Awarding manual attendance

1. Click at Pane to expand
2. Click here to view list of members
3. Click to enter date and time
4. Click at Update
View and download attendance

1. Group manager logs into Surveys@IITB
View and download attendance

2. Select start and end dates

[Image of the Get Biometric Attendance interface]

- Enter required dates
- Click here

Create id for contract worker
View and download attendance

2. Download attendance

<table>
<thead>
<tr>
<th>EmployeeID</th>
<th>Name</th>
<th>count</th>
<th>2013-12-13</th>
<th>2013-12-16</th>
<th>2013-12-17</th>
</tr>
</thead>
</table>

Click here to download excel

Punch time and Reader ID