Infant Protection System

For Hospitals
How it helps?

• Theft prevention
• No Mix-up
• Foolproof Birth Certificate System
• Traceability for Lost children & abandoning of female child
Technologies?

- Biometric Footprint Scanning of Infant
- Biometric Fingerprint & Face scanning for Parents
- Real Time Location System with Wireless Transmitter Tags for Infant & Mother
- Central Web based Management System
A. Registration Process

Registration Process Mainly Includes:
- Biometrics data.
- Wireless Tags data.

Registration Process Steps:
1) Infant and mother come to the registration station, where all the required things for enrollment are placed like Wireless tags, fingerprint slap scanner, iris scanner, footprint scanner, web-cam etc.
2) Registration process includes details like name of parents, address, phone number etc plus mother 10 fingerprints, infant footprints, mother photo, infant photo, details of Wireless tags of mother and infant.
3) Details sent to central server where system checks for De-duplication.
4) After De-duplication check the mother and infant/baby registered successfully

(Please see next slide for registration process overview)
Registration Overview

Server

De-Duplication & Quality Check

Process Flow

Registration Desk

Registration includes
1. Baby foot Scan
2. Mother’s Fingerprint
3. Mother and Baby’s tag registration
4. Face Images for Mother & Baby

Registration Successful
B. Verification Process

Verification Process Based on following types:

- Biometrics.
- Wireless Tags.

B.1) Verification based on Biometrics:

Mother and baby visit Identification/Verification desk, which is present at hospital level. After that, the operator takes baby footprint details and sends those details to central server. Central server gives response for the baby identification. If baby is identified, in the system as registered baby, then operator takes mother’s fingerprints and verifies against recorded fingerprints of the Baby’s Mother.

B.2) Verification based on wireless tags:

Mother and baby are already registered with their wireless tag details now they just need to visit identification/verification room where operator checks wireless tag details and sends those details to central server for matching. Once both wireless tags are successfully verified, application returns positive result.

(Please see next two slides for verification process overview)
B.1) Verification (Biometrics)

Scan Baby Footprint

Server Matching

Baby Identification Result

Verification Process Flow for Biometrics

Baby Verification Result

Scan Mother Fingerprint

Server Matching
B.2) Verification (wireless Tags)

Server will Read Mother & Baby’s Wireless tags

Server Matching: Matching Wireless Tags

Verification Process Flow for Wireless Tags

Baby Verification Result

Baby & mother Wireless Tag
Summary

ABC Hospital And Nursing Home
Sect No. 6, Spine Road, Pimpri-Chinchwad Pradhikaran, Pimpri Pune.
Registration Form with Info.

**New Born Registration**

- **Baby Name:** Son Of Nita
- **Wireless tag for baby:** 4356747
- **Mother Name:** Nita
- **Wireless tag for mother:** 645378
- **Father Name:** Ramesh
- **Birth Date:** 12/02/2013 10:59:29
- **Birth Place:** Pune
- **Address:** Spine Road, Pimpri-Chinchwad Pradhikaran

**Matching**

- **Operator:**

**Baby Right Foot**

**Baby Left Foot**

**Baby photo:**

**Mother/Father four finger slap**

**Mother photo:**

**Operator four finger slap:**
Baby Matching Success

**Step 1: New Born Identification**
- Baby footprint:
- Baby Name: Son Of Nita
- Wireless tag details for baby: 4356747
- Mother Name: Nita
- Wireless tag details for mother:
- Father Name: Ramesh
- Birth Date: 12/02/2013 10:59:29
- Birth Place: Pune
- Address: Spine Road, Pimpri-Chinchwad Pradhikaran

**Step 2: Mother Identification**
- Mother fingerprint:

Matching

Baby Matching Successful

Capture footprint and Match

Reset

Exit
Baby Verification Success

Note: Please make all the necessary corrections for this form.

First tag info:
- Baby Name: Son Of Nita
- Mother Name: Nita
- Father Name: Ramesh
- Birth Date: 12/02/2013 10:59:29
- Birth Place: Pune
- Address: Spine Road, Pimpri-Chinchwad Pradhikaran

Second tag info:
- Baby Name: Son Of Nita
- Mother Name: Nita
- Father Name: Ramesh
- Birth Date: 12/02/2013 10:59:29
- Birth Place: Pune
- Address: Spine Road, Pimpri-Chinchwad Pradhikaran

Verification:
- Baby Verification Successful

Verify
All infants are safe and being Monitored

Note: Please click the row to get the complete record.

Baby Name: ___________________________  Birth Place: ___________________________

Wireless tag for baby: ___________________________  Address: ___________________________

Mother Name: ___________________________  Ward No.: ___________________________

Wireless tag for mother: ___________________________  Bed No.: ___________________________
### Monitoring Form

<table>
<thead>
<tr>
<th>Floor</th>
<th>Total Infants</th>
<th>Status</th>
<th>Last Updated On</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor First</td>
<td>20</td>
<td><strong>All Infants are Detected</strong></td>
<td>0 Min 0 Seconds</td>
</tr>
<tr>
<td>Floor Fourth</td>
<td>23</td>
<td>Not Detected</td>
<td>0 Min 3 Seconds</td>
</tr>
<tr>
<td>Ward 1</td>
<td>1</td>
<td><strong>All Infants are Detected</strong></td>
<td>0 Min 0 Seconds</td>
</tr>
<tr>
<td>Ward 2</td>
<td>0</td>
<td><strong>All Infants are Detected</strong></td>
<td>0 Min 0 Seconds</td>
</tr>
<tr>
<td>Ward 3</td>
<td>1</td>
<td><strong>All Infants are Detected</strong></td>
<td>0 Min 0 Seconds</td>
</tr>
<tr>
<td>Ward 4</td>
<td>2</td>
<td>Not Detected</td>
<td>0 Min 0 Seconds</td>
</tr>
<tr>
<td><strong>Bed 1</strong></td>
<td><strong>1</strong></td>
<td>Not Detected</td>
<td><strong>0 Min 0 Seconds</strong></td>
</tr>
</tbody>
</table>

**Some infants have outward entries**

Note: Please click the row to get the complete record.

- **Baby Name**: Son of Nita
- **Birth Place**: Pune
- **Wireless tag for baby**: 345261
- **Address**: Spine Road, Pimpri-Chinch
- **Mother Name**: Nita
- **Ward No.**: 4
- **Wireless tag for mother**: 345262
- **Bed No.**: 1
Wireless Security System diagram

Ward 1

Ward 2
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