

MI Room OPD Management Application (MIR OPD)

"A modern solution for streamlining MI Room operations!"

The MIR OPD Application replaces outdated paper-based systems with a Microsoft Access-based EMR platform designed for MI Rooms. It simplifies OPD management, drug inventory tracking, and patient follow-ups through automated processes and a user-friendly interface. With features like standardised prescriptions, monthly drug indents, and instant access to patient histories, the app enhances accuracy, saves time, and improves operational efficiency—all tailored to the unique needs of Armed Forces medical facilities.

Objective:

To modernise and streamline the medical record management processes of MI Rooms in the Armed Forces by replacing traditional paper-based systems with an electronic, user-friendly solution tailored to the specific needs of unit-level medical facilities.

Problem:

1. **Outdated Record Management:**
 - a. Reliance on paper-based systems for OPD visits, drug inventories, and follow-ups was time-consuming and prone to errors.
 - b. Manual processes led to inefficiencies in data retrieval and storage.
 2. **Operational Challenges:**
 - a. Managing drug stock and indents involved cumbersome manual calculations.
 - b. Prescriptions often suffer from errors or poor readability due to handwriting issues.
 3. **Lack of Integration:**
 - a. No centralised system for patient histories, diagnostics, or medical stock data.
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Solution:

The **MIR OPD Application**, a Microsoft Access-based EMR platform, offers:

1. An integrated system for managing OPD visits, patient histories, and drug inventories.
2. A user-friendly interface designed for non-technical users, ensuring accessibility across unit-level MI Rooms.
3. Standardized formats for prescriptions, drug indents, and patient records to improve accuracy and efficiency.

Key Features:

1. OPD Management:

- a. **Patient Registration:** Add new patients with a one-time registration process.
- b. **Follow-Up Visits:** Easily retrieve and replicate past prescriptions for chronic cases, reducing workload.
- c. **Vitals and Investigations:** Record patient vitals (e.g., temperature, BP, SPO2) and investigations in a structured format.
- d. **Prescription Printing:** Generate standardised prescriptions on half-sized A4 or legal pages, customised with unit names and doctor details.

2. Drug Stock Management:

- a. Maintain comprehensive drug inventory with details like MMF quantity, expiry dates, and current stock levels.
- b. **Monthly Indents:** Auto-generate drug indents based on inventory data.
- c. Prevent prescription of expired drugs with automated checks.

3. Data Retrieval and Analysis:

- a. Advanced search options for patient histories, drug inventories, and OPD records.
- b. Analyse medical information such as upcoming medicals, patient demographics, and due investigations.

4. Customizability:

- a. Personalise the application with doctor profiles, including names and signatures.
- b. Flexible input formats for investigations and prescriptions.

5. Backup and Security:

- a. Regular backups ensure data safety, with options for manual export and import.
- b. Password-protected login for controlled access.

6. Ease of Use:

- a. Non-technical staff can quickly learn and operate the application with minimal training.
- b. Step-by-step instructions are provided in a comprehensive help file.

Technologies Used:

1. **Microsoft Access:** Provides a robust database backend and user-friendly interface for forms and reports.
 2. **VBA (Visual Basic for Applications):** Automates processes like prescription & report generation along with data validation.
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Challenges Addressed:

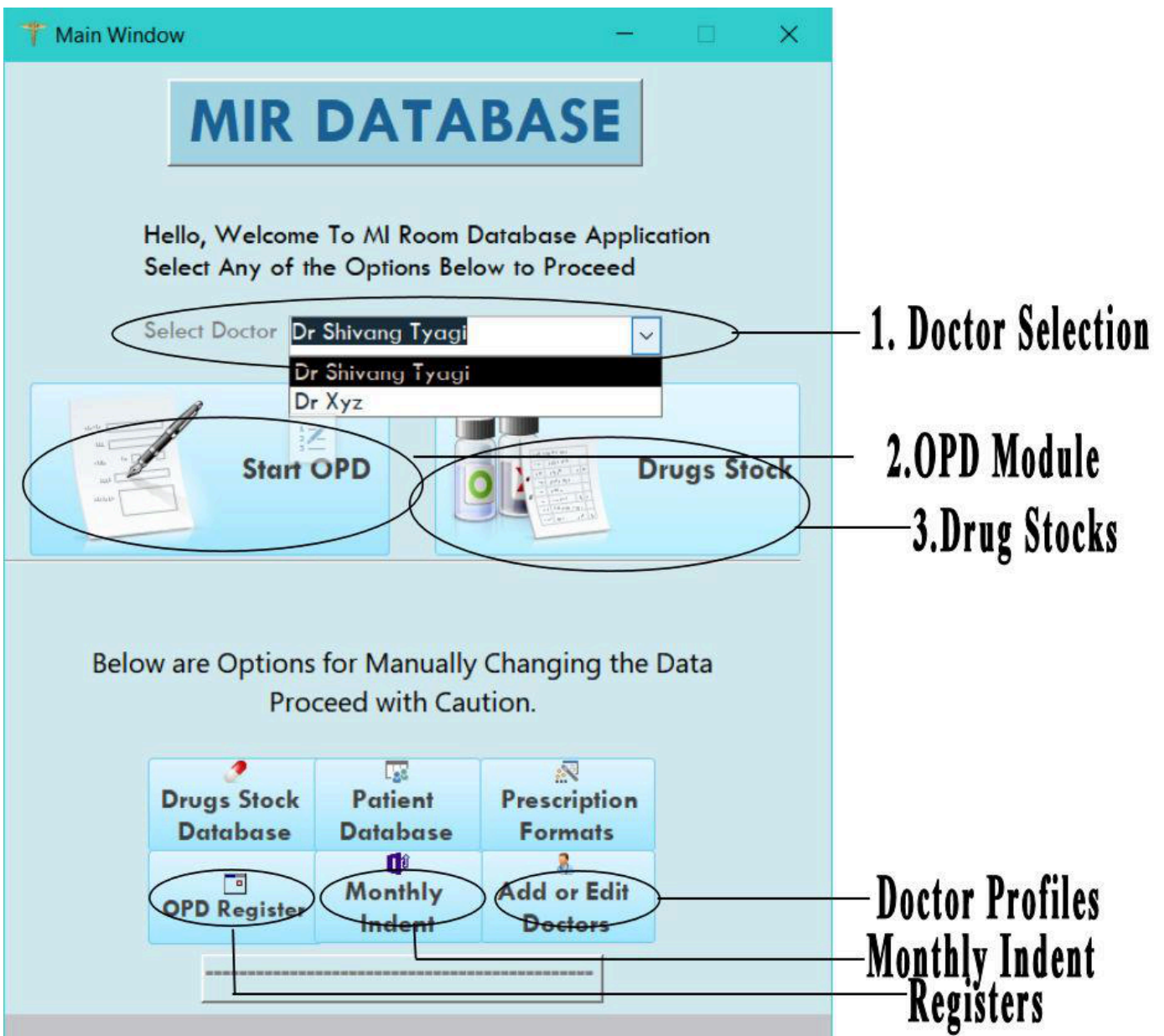
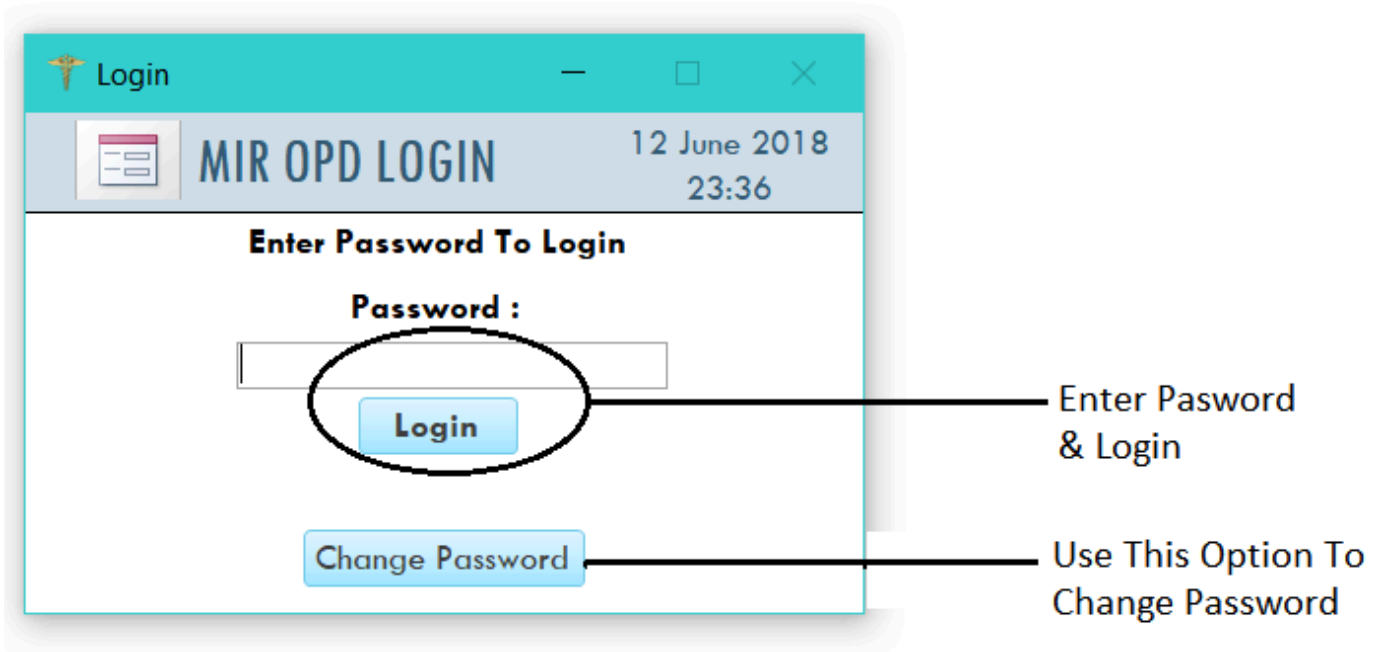
1. **Time-Consuming Manual Processes:**
 - a. Automated patient registration, prescription printing, and drug stock updates save significant time.
 2. **Error-Prone Systems:**
 - a. Standardised formats and automated checks reduce errors in data entry and reporting.
 3. **Data Accessibility:**
 - a. Instant access to historical patient records and inventory reports improves decision-making.
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Impact:

1. **Improved Efficiency:**
 - a. Streamlined processes for OPD management and drug inventory tracking.
 2. **Enhanced Accuracy:**
 - a. Reduced errors in prescriptions and reporting through automation.
 3. **Time Savings:**
 - a. Faster follow-ups and monthly indents save valuable time for medical officers and staff.
 4. **Scalability:**
 - a. The system can be deployed across MI Rooms, ADS, and MAPs with minimal setup requirements.
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Visual Cues:

1. **Login Page:** Demonstrates secured access.
 2. **Dashboard:** Overview of OPD and drug management modules.
 3. **Patient Record Forms:** Simplified data entry and retrieval.
 4. **Inventory Module:** Drug stock tracking and indent generation.
 5. **Reports:** Monthly medical summaries and analysis charts.
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OPD

12 June 2018 23:17:20

MIR OPD

Search Patient Name/Number to search: 1877

Army Number: 18779 Rank: Capt Name: Sample Pt 3 Age: 25

Gender: M Trade: Opr Unit: [Redacted] Medical Category: SHAPE-1 Last Board Held: 04-Jun-16 Next Board Date:

Complaints: Itching And Rash x 2 Weeks Diagnosis: Tinea Cruris

Prescription: TAB Terb (TAB BDS 3 Days) ADD

Rx: Tab Terbinafine 250mg 1 Tab OD x 3 Weeks
Oint Luliconazole LA BD x 2 Weeks
Pdr Clotrimazole LA TDS x 2 Weeks
Review After 2 Weeks

Remarks: Excuse:

TimeStamp: 05-06-2018 12:45:44 Date of Visit: 05-06-2018

Buttons: Follow Up, Add New, Refresh, Undo, Delete, Minimise, Edit Fields, Vitals & Inv, Order Investigations, Save, Print, Save & New, Close

Annotations:

- Select Record from RHS, & Click Follow Up
- Click to Add New Patient
- Search Results are displayed here, select to view record
- Refresh Records
- Enter Medicine Name to search and click Add to it to prescription box. Always Start from Cap or Tab or Oint as mentioned in the drug list
- You can Add Medicines to Prescription from Search above or type in the Order Manually
- Patient Records Are Locked to prevent inadvertent changes. Click Edit to enable editing of records
- Select to Add Vitals & Previous Investigations to save
- Select to Order Investigations on AFMSF-9
- When Completed, Select to Print Prescription
- For Faster Processing, Click Save & New to open new record after saving

Table:

Army Num	Y	Rank	Name	Y	Complaints	Diagnosis	Date of Visit
18779		Capt	Sample Pt 3		Burning Sensatic Neuropt...		12-06-2018
18779		Capt	Sample Pt 3		Pain Left Eye sir Conjunctivitis ?		11-06-2018
18779		Capt	Sample Pt 3		White Colored	Tinea Versicolor	11-06-2018
18779		Capt	Sample Pt 3		Pain in Neck, St Cervical Spond...		07-06-2018
18779		Capt	Sample Pt 3		Itching And Rash	Tinea Cruris	05-06-2018
							12-06-2018

Army Number: 18779 Rank: Capt Name: Sample Pt 3 Age: 24

Vitals & Investigations

Temperature in 'F: 98

Pulse / Min: 70/min

Respiratory Rate: 22/min

Blood Pressure: 116/74 mm hg

Height in cm: 170cm

Weight In Kgs: 72Kg

SPO2 in %: 98%

BMI: 24.91

Investigations: Hb - 14, Blood Sugar Fasting - 94

Save & Exit

Press TAB Key, to jump to next field & Press ESC to undo .

Date of Visit: 11-06-2018

Record: 1 of 1 Filtered Search

MIR OPD

18779	Capt	Sample Pt
18779	Capt	Sample Pt

Order Investigations
X

CONFIDENTIAL
In Lieu of AFMSF -9

Field Regiment
Request For Special Investigations
MI ROOM

Unit:
[Redacted] Regt

Age:
24

Army Number:
18779

Service in Yrs:
5

Rank:
Capt

Name:
Sample Pt 3

Nature Of Specimen & When Collected:
Blood & Urine

Examination Required:
Hb, TLC, DLC,
Urine R/M & Sp Gr
Blood Sugar Fasting & PP
Resting ECG

Select Investigations:
[AME ##] v

Type to select investigation above & click ADD to add it to the List

Brief Clinical Notes:
For AME

Date of Visit:
11-06-2018

Record: 1 of 1 | Filtered | Search

SHIVANG TYAGI

File Print Preview Tell me what you want to do

Print Size Margins Print Data Only

Portrait Landscape Columns Page Setup

Zoom One Page Two Pages More Pages

Refresh All Excel Text File PDF or XPS Email More

Close Print Preview

Regiment

Medical Inspection Room

PRESCRIPTION

Date of Visit: 07-06-2018 Army Number: 18779 Rank: Capt

Name: Sample Pt 3 Age: 22 Gender: M Trade: RMO

Medical Category: SHAPE-1

Complaints: Pain in Neck, Stiffness, Radiating to Left Arm.

T	P	RR	BP
98	82/min	22/min	110/70 mm hg

Advice: Rx
Tab Acetofenac MR 1 Tab BDS x 5 Days
Tab Pregabalin 75mg 1 Tab HS x 5 Days
Tab MCB 1500Mcg 1 Tab OD x 5 Days
CAP OMEZ 20mg 1 Tab BDS x 5 Days

Diagnosis: Cervical Spodlyosis ?

Excuse: Light Duties x 48 Hrs

(Shivang Tyagi)

07-06-2018 11:13:15

Page: 1 of 1 | Filtered

 Navigation Pane
 Click Print to Print Prescription

30-Sep-18
17:19:47



Regiment



MEDICAL INFORMATION ANALYSIS

Rank (A-Z) Medical Category Search Patient Name/Number Search Blood Group All LMC ?

Clear Filters

Minimise

Refresh

Close

Army Number: Age:
 Rank: BMI:
 Name: Blood Group:
 Unit: Medical Category:
 Medical:

Do Monthly Medical

Edit Details

Print Pt. Data

Army Number	Rank	Name	Unit	Age	BMI	Blood Group	Medical Category	This Year's Medical
144444A	Nk	Sample Pt 1	d Regt	36	24	A+	SHAPE-1	AME by AMA
1444484N	L/Nk	Sample Pt 7	d Regt	37	25	A-	SHAPE-1	AME at MH
1445656X	Nk	Sample Pt 6	d Regt	35	26	A-	A2(P)	PME at MH
1449932A	Sub	Sample Pt 10	d Regt	40	26	AB+	SHAPE-1	PME at MH
1514848P	BHM	Sample Pt 9	d Regt	41	24	B-	P2(P)	AME by AMA
1516484M	Sep	Sample Pt 2	d Regt	34	25	A+	SHAPE-1	AME by AMA
17738983N	Hav	Sample Pt 4	d Regt	36	25	B-	SHAPE-1	AME by AMA
2104842W	Hav	Sample Pt 8	d Regt	30	27	A-	SHAPE-1	AME at MH
Civilian	Civilian	Sample Pt 3	d Regt	23	23	B+	SHAPE-1	Not Applicable
IC77777Y	Capt	Sample Pt 5	d Regt	39	26	AB+	SHAPE-1	AME by AMA

DRUG ENTRY FORM

Search:

Drug Name: Displays The Name of The Medicine

Type: Select or Display Quantity Type - Nos/Vial/Amp Etc

In Stock: Select this option to remove drug from indent

Remove from Indent: Select this option to remove drug from indent

Demand: MMF: Issued: Expiry: Enter MMF Quantity

Remarks: Enter Remarks to be displayed on indent

Note: By Default All Drugs Are Included in Monthly Indent, Unless You Check "Remove from Indent" Option. Expired Drugs are Not Shown in List On Prescription (OPD), to Avoid Prescribing Expired Drugs.

ID	Drugname	Type	Quantity	Expiry
12	E/D CIPLOX	Nos	100	30-06-2018
13	E/D CIPLOX-D	Nos		
152	INJ CIPROFLOXACIN (CIFRAN)	Amp		
152	TAB CIPROFLOXACIN 500 mg	Nos	100	29-06-2018
153	TAB CIPZOX	Nos		

Shows Search Results & Drug List, Select any record to edit.



Regiment
Monthly Indent For The Month of December 2018



ID	Drugs	Type	MMF	Demand	Issued	Remarks
1	ADHESION PLAST	Nas	5	10	5	
2	BETADINE LOTION SMALL	Bottle	15	10	5	
3	BETADINE SOL SEMSCRUB	Bottle				
4	CAP AMOXYCILLIN 500mg	Nas		1 00		
5	CAP OMEZ 20mg	Nas				
6	COTTON	Gms				
7	CREPE BANDAGE 10CM	Nas		22		
8	CREPE BANDAGE 1.5CM	Nas				
9	D 5%	Nas				
10	DETTOL SOL	Bottle				
11	DEXTRON 40%	Nas				
12	E/D CIPLOX	Nas		1 00		
13	E/D CIPLOX-D	Nas				
14	E/D FLURBIPROFEN	Nas				
15	E/D METHYLCELLULOSE	Nas				
16	E/D OFLOXACIN	Nas				
17	E/D WAXOKEM	Nas				
18	ELASTO PLAST	Nas				
19	ETHYL ALCOHOL	Bottle				
20	GAUZE PIECE	Nas				
21	GLUCOSE POWDER	Gms				
22	HYDROGEN PEROXIDE SOL	Bottle				
23	INHALER AEROCORT	Nas				
24	INHALER BUDECORT	Nas				
25	INJ ADRNALINE	Amp				
26	INJ AMIKACIN	Vial				
27	INJ ARTESUNATE	Amp				
28	INJ ASV	Vial				
29	INJ ATROPINE	Amp				
30	INJ AUGMENTIN	Amp				
31	INJ AVIL	Amp				
32	INJ BUSCOPAN	Amp				