

1. General Fields (Common for All Users)

These fields apply to **every account** on the portal:

- **Basic Information**

- Full Name
- Email Address (Username)
- Phone Number
- Password (Securely hashed)
- Profile Picture (Optional)
- Account Type (Dropdown: Customer, Plumber, Customer Care, HR, ICT)

- **Security & Access**

- Two-Factor Authentication (Optional)
 - Last Login Date/Time
 - Account Status (Active/Suspended)
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2. Role-Specific Fields & Functions

A. Customer Account

Fields:

- Address (for billing/service location)
- Meter Number (if applicable)
- Preferred Communication Method (SMS/Email)
- Payment Method (Card, Mobile Money, Bank)

Functions:

- View/pay bills
- Report leaks/faults (with photo upload)

- Track complaint status
 - Request new connections/disconnections
 - View water usage history
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B. Plumber Account

Fields:

- Employee ID (if internal) / Contractor ID (if external)
- Specialization (e.g., pipe repairs, installations)
- Availability Status (Active/On Leave)
- Assigned Zone (for NRW regions)
- Supervisor Contact

Functions:

- View assigned jobs (from Customer Care)
 - Update job status (In Progress/Completed)
 - Upload work reports (photos, notes)
 - Request materials (linked to Procurement)
 - Access plumbing manuals/standards
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C. Customer Care Account

Fields:

- Employee ID
- Department (Complaints, Billing, New Connections)
- Access Level (Junior/Supervisor/Admin)

Functions:

- Log/track customer complaints
 - Assign jobs to plumbers
 - Approve/decline new connection requests
 - Generate bills/adjustments
 - Live chat with customers
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D. Human Resources (HR) Account**Fields:**

- Employee ID
- Department (HR, Payroll, Recruitment)
- Position (Manager, Officer)

Functions:

- Manage staff records (plumbers, customer care, ICT)
 - Process payroll (linked to Finance)
 - Post job vacancies
 - Track training/certifications
 - Approve leave requests
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E. ICT Staff Account**Fields:**

- Employee ID

- Role (Admin, Support, Developer)
- System Access Level (Full/Restricted)

Functions:

- Manage user accounts (reset passwords, suspend accounts)
- Monitor system health (server status, uptime)
- Resolve technical support tickets
- Update portal features

3. Database Structure (Simplified)

| Field | Customer | Plumber | Customer Care | HR | ICT |
|---------------|----------|---------|---------------|----|-----|
| Name | ✓ | ✓ | ✓ | ✓ | ✓ |
| Email | ✓ | ✓ | ✓ | ✓ | ✓ |
| Phone | ✓ | ✓ | ✓ | ✓ | ✓ |
| Address | ✓ | ✗ | ✗ | ✗ | ✗ |
| Employee ID | ✗ | ✓ | ✓ | ✓ | ✓ |
| Meter Number | ✓ | ✗ | ✗ | ✗ | ✗ |
| Assigned Zone | ✗ | ✓ | ✗ | ✗ | ✗ |
| Access Level | ✗ | ✗ | ✓ | ✓ | ✓ |

4. Technical Requirements

- **Backend:**
 - Database (MySQL, PostgreSQL)
 - API for mobile/SMS integration
 - **Frontend:**
 - Responsive design (Bootstrap, React)
 - **Security:**
 - Role-based access control (RBAC)
 - HTTPS encryption
 - **Integrations:**
 - Payment gateways (Airtel Money, TNM Mpamba)
 - SMS/email alerts (e.g., Africa's Talking API)
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5. Workflow Example

1. **Customer** reports a leak → Complaint goes to **Customer Care**.
 2. **Customer Care** assigns job to a **Plumber** in the correct zone.
 3. **Plumber** updates status upon completion.
 4. **ICT** ensures system logs the resolution time.
 5. **HR** tracks plumber's performance.
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Next Steps

1. **Choose a platform:**
 - Custom build (PHP/Laravel, Python/Django)
 - Low-code (WordPress + Plugins, Odoo ERP)

2. Design UI/UX:

- Separate dashboards per role.

3. Test & Deploy:

- Pilot with NRW staff first.

Would you like a **mockup design** or recommendations for specific software tools?

For example, you could use **WordPress + ProfilePress** for a quick prototype.

1. Shared User Model Fields (for all account types)

These are general fields used at account creation (e.g., during sign-up):

- **Full Name**
- **Email Address** (unique)
- **Phone Number**
- **Username** (optional, if not using email as username)
- **Password** (hashed in Django)
- **Role/Account Type** (Customer, Plumber, Customer Care, HR, ICT)
- **Date Joined**
- **Is Active** (Boolean)
- **Last Login**

☐ 2. Customer Profile Fields

- Linked User
 - National ID or Passport Number
 - Physical Address
 - Zone / Area / Branch
 - Meter Number (optional at registration)
 - Account Number (generated or assigned)
 - Type of Customer (Residential / Commercial)
 - Registration Date
 - Preferred Contact Method (Phone/Email/SMS)
 - Profile Picture (optional)
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3. Plumber Profile Fields

- Linked User
- Employee ID or Staff Code
- National ID
- Phone Number
- Department (Plumbing)
- Certification or License Number
- Years of Experience
- Assigned Zone or Branch

- Availability Status (Available / On Job)
 - Tools Owned (checkbox or list)
 - Photo or ID Card
 - Date Hired
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4. Customer Care Profile Fields

- Linked User
 - Employee ID
 - Department (Customer Care)
 - Zone or Office Location
 - Shift (Day/Night)
 - Support Level (e.g., Level 1, 2)
 - Languages Spoken
 - Date Joined
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5. HR (Human Resources) Profile Fields

- Linked User
- Employee ID
- National ID
- Department (HR)

- Position/Title (e.g., HR Officer)
 - Date of Employment
 - Contract Type (Permanent / Temporary)
 - Education Level
 - Emergency Contact Name & Phone
 - Documents (e.g., CV, ID uploads)
 - Photo
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6. ICT Staff Profile Fields

- Linked User
- Staff ID
- National ID
- Department (ICT)
- Title/Position (e.g., Network Admin, Developer)
- Skills (e.g., Networking, Python, Helpdesk)
- Certifications (e.g., CompTIA, CCNA)
- Projects Assigned
- Supervisor Name
- Date of Hire
- Workstation Number or IP








Additional Notes:

- Use **one custom user model** (with role field) and separate **profile models per role** (one-to-one relationship).
 - Add profile image field for all roles if needed.
 - Email or phone can be used for login.
 - All profile fields should be editable via profile dashboard after registration.
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✓ 1. Customer Dashboard

Purpose: Track water usage, bills, and support requests.

Should include:

- ☐ **My Account Details** (meter number, zone, account number)
-  **Water Usage History**
-  **Billing Statements & Balances**
-  **Make Payments / View Payment History**
-  **Request Plumbing Services**
-  **Submit Complaint / Feedback**
- ☐ **Complaint Status Tracking**
-  **Download Invoices / Receipts**
-  **Update Profile**

- 🔊 **Announcements / Outage Alerts**
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🔧 2. Plumber Dashboard

Purpose: Manage plumbing requests and job assignments.

Should include:










- 📅 **Assigned Jobs List** (with address, customer, date)
 -  **New Job Notifications**
 - ✖ **Mark Job as Completed**
 - 🗺 **Map View / Route to Job**
 - ☐ **Log Work Report** (with before/after photos)
 - 📅 **Schedule or Accept Tasks**
 - ☐ **Availability Status Toggle** (Available / Busy)
 - 📊 **My Performance History**
 - ➡ **Update Profile**
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📞 3. Customer Care Dashboard

Purpose: Manage customer inquiries and complaints.

Should include:

- 🔍 **Search Customers by Meter/Account Number**



-  **New Complaints Inbox**
-  **Log New Complaint**
-  **Ongoing Complaints** (status, assigned to plumber or ICT)
-  **Resolve & Close Complaint**
-  **Call Log or Communication History**
-  **Assign Complaint to Relevant Department**
-  **Send SMS/Email Notifications**
-  **Monthly Summary of Cases**
-  **Update Profile**

4. HR (Human Resources) Dashboard

Purpose: Manage staff records and HR-related data.

Should include:



-  **Employee List by Department**
-  **View/Add/Edit Employee Profiles**
-  **Leave Requests and Approvals**
-  **Staff Performance Reports**
-  **Upload Documents (e.g., CVs, contracts)**
-  **Assign Roles and Departments**
-  **Download HR Reports**

-  **Internal Communication Tools**
 -  **Update Profile**
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5. ICT Dashboard

Purpose: Manage technical support, systems, and assets.

Should include:

-  **System Status Dashboard**
-  **Open Technical Support Tickets**
-  **Assign ICT Issues to Technicians**
-  **Asset Management** (PCs, routers, printers)
-  **Monthly ICT Performance Reports**
-  **ICT Project Tracker**
-  **Testing/Monitoring Tools Access**
-  **Upload Technical Documents**
-  **Update Profile**