Detailed Feature Breakdown

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1. User Authentication & Patient Selection

Features:

- Role-Based Login

    o Health workers (ASHAs/ANMs): Full access

    o Parents: View-only access for their child

- Patient Workflow

    o New Child

        ▪ Capture demographics: Name, Date of Birth, Gender, Village

        ▪ Generate a unique ID (e.g., QR code for offline tracking)

    o Existing Child

        ▪ Search by name/ID or scan QR code

        ▪ Display the child's growth history timeline

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2. Data Entry & Processing

Features:

- Input Validation

    o Automatically reject implausible values (e.g., weight over 25 kg for infants)

    o Rounding logic

        ▪ Height rounded to the nearest 0.1 cm (as per WHO standards)

        ▪ Weight rounded to the nearest 0.01 kg

- Automated Z-Score Calculation

    o Pull reference data from WHO or ICMR APIs / embedded databases

    o Calculate:

        ▪ Weight-for-Age (WAZ)

        ▪ Height-for-Age (HAZ)

        ▪ Weight-for-Height (WHZ)

- Classification Engine

    o Severity Levels:

Z-Score Range	Classification	Alert
>= -2 SD	Normal	None
-3 SD to < -2 SD	Moderate (MAM)	Yellow
< -3 SD	Severe (SAM)	Red

- o Risk Flags
    - ▪ Automatically tag as "SAM" if edema is present (indicator of kwashiorkor)

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3. Visualization & Feedback

Features:

- Dynamic Growth Chart
    - o Percentile curves (WHO)
    - o Optional toggle to overlay Indian ICMR references
    - o Interactive features:
        - ▪ Hover to see Z-score and percentile
        - ▪ Click on past entries to compare history
- Alert System
    - o Alerts for SAM/MAM cases
        - ▪ Pop-up with recommended next steps (e.g., "Refer to NRC for SAM")
        - ▪ Automatically notify supervisors via SMS if urgent
    - o Trend Warnings
        - ▪ Detect patterns such as two consecutive drops in WAZ
- Report Generation
    - o Parent Report
        - ▪ Visual summary using traffic light indicators
        - ▪ Nutrition tips in the local language (e.g., "Increase dal and ghee intake")
    - o Health Worker Report
        - ▪ Printable format suitable for clinic records

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4. Review & Recommendations

Features:

- Actionable Steps

  o SAM Cases

    ▪ Auto-generate referral to Nutrition Rehabilitation Centers (NRCs)

    ▪ Check and enable government scheme eligibility (e.g., POSHAN Abhiyan)

  o MAM Cases

    ▪ Recommend supplementary nutrition (e.g., "Provide take-home rations")

- Educational Content

  o Contextual Tips

    ▪ For infants under 6 months: "Exclusive breastfeeding until 6 months"

    ▪ For children aged 6–12 months: "Add mashed vegetables twice daily"

- Confirmation Flow

  o Health worker must sign off on actions using OTP or digital signature

  o All data synced to cloud with offline retry support

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5. Technical Enhancements

- Offline-First Design

  o Use of SQLite for offline data collection

  o Smart conflict resolution during data sync

- Security

  o End-to-end encryption for all patient records

  o Compliance with HIPAA/GDPR for data storage and export

Workflow Summary (Logic Flow)

Flow Diagram (for visualization tools):

Login → New or Existing Child
→ Enter Demographics or Search
→ Enter Height/Weight
→ Round Values and Calculate Z-Scores
→ Classify (Normal, MAM, or SAM)
→ Generate Report or Trigger Alerts
→ Review and Confirm