Empathy Map Canvas

Liver Cirrhosis Prediction System

Date: June 28, 2025
Project Name: Revolutionizing Liver Care: Predicting Liver Cirrhosis using Advanced Machine Learning Techniques
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Primary User Persona: Dr. Sarah Kumar

General Practitioner in a Rural Healthcare Center

- Age: 35
- Experience: 8 years in general medicine
- Location: Rural clinic with limited diagnostic facilities
- Tech comfort: Moderate

THINKS & FEELS 💭

What really counts

- "Early detection could save so many lives"
- "I wish I had better tools to identify at-risk patients"
- "Traditional testing is too expensive for most of my patients"
- "I need to be confident in my diagnoses"

Major preoccupations

- Patient safety and accurate diagnosis
- Cost-effective healthcare delivery
- Time constraints during consultations
- Limited access to specialist care

Worries and concerns

- Missing early-stage liver disease
- Over-referral leading to unnecessary costs

- Under-referral missing critical cases
- Reliability of new technology

Aspirations

- Provide better preventive care
- Reduce patient mortality from liver disease
- Increase diagnostic confidence
- Improve healthcare accessibility

SEES 👀

Environment

- Limited diagnostic equipment in clinic
- Long queues of patients waiting
- Basic laboratory facilities
- Patients who can't afford expensive tests

Friends and colleagues

- Other doctors discussing challenging cases
- Medical conferences emphasizing early detection
- Research papers on ML in healthcare
- Success stories from technology adoption

What others are saying

- "We need better screening tools"
- "Technology can revolutionize rural healthcare"
- "Patients are presenting too late"
- "Cost is a major barrier to testing"

SAYS & DOES 🗣️

Attitude in public

- "We must leverage technology for better patient care"
- "Early detection is key to liver disease management"

- "Rural patients deserve the same quality care"

Behavior towards others

- Collaborative with healthcare team
- Patient and empathetic with patients
- Cautious about new technologies
- Advocates for affordable healthcare

Daily activities

- Reviews patient lab results
- Conducts physical examinations
- Makes referral decisions
- Explains diagnoses to patients
- Documents patient records

HEARS 👂

What friends and colleagues say

- "Machine learning is the future of medicine"
- "We need non-invasive diagnostic tools"
- "Patient compliance is better with simpler tests"

What boss/authority figures say

- "Improve diagnostic accuracy while controlling costs"
- "Reduce unnecessary referrals"
- "Embrace evidence-based medicine"

What influences them

- Medical journals and research
- Peer recommendations
- Patient feedback
- Healthcare policy guidelines
- Technology success stories

PAIN POINTS 😰

Fears

- Making incorrect diagnoses
- Technology malfunctioning during critical moments
- Patient data privacy breaches
- Over-dependence on automated systems

Frustrations

- Limited time per patient consultation
- Lack of specialist support
- Expensive diagnostic procedures
- Patients presenting at advanced stages

Obstacles

- Budget constraints for new technology
- Limited technical training
- Internet connectivity issues
- Resistance to change from older colleagues

GAINS 🎯

Wants and needs

- Quick, reliable screening tools
- Cost-effective diagnostic options
- User-friendly interfaces
- Integration with existing systems

Success metrics

- Reduced missed diagnoses
- Earlier detection rates
- Improved patient outcomes
- Cost savings for patients

Obstacles removed

- No need for expensive liver biopsies for screening
- Reduced waiting time for specialist appointments
- Better resource allocation
- Increased patient trust

USER JOURNEY MOMENTS

Before using the system

- Relies on clinical intuition and basic lab tests
- Refers patients based on limited information
- Worries about missing early-stage disease

During system use

- Inputs readily available patient data
- Reviews prediction results with confidence scores
- Combines AI insights with clinical judgment
- Explains results to patients in simple terms

After using the system

- Makes more informed referral decisions
- Monitors at-risk patients more closely
- Builds stronger patient relationships through proactive care
- Contributes to community health improvement

DESIGN IMPLICATIONS

System Requirements

1. **Simple, intuitive interface** - minimize learning curve
2. **Fast processing** - results within seconds
3. **Clear confidence indicators** - help with decision-making
4. **Offline capability** - function without constant internet
5. **Multi-language support** - serve diverse patient populations

Features to Prioritize

- One-click data entry from existing records
- Visual risk indicators (traffic light system)
- Explanation of key risk factors
- Integration with electronic health records
- Mobile-responsive design for tablet use

Success Factors

- High accuracy and reliability
- Transparent decision-making process
- Continuous learning and improvement
- Strong data privacy protection
- Comprehensive user training and support