Phase 2 Testing Guide - User Manual

Overview

This guide provides step-by-step instructions for testing all Phase 2 features that are now accessible through the user interface. The backend systems are fully functional, and we've created comprehensive UI components to make all features testable.

Quick Start - What's Now Available

✅ NEWLY ACCESSIBLE FEATURES

- **File Upload Analysis** - Upload lab reports, CSV files, and images
- **Structured Health Assessment** - Comprehensive biomarker and symptom input
- **Health Dashboard** - Centralized view of all analyses and trends
- **Results Visualization** - Detailed analysis results with Ray Peat insights
- **Memory-Enhanced Chat** - Contextual conversations (existing, improved)

Testing Workflows

1. COMPREHENSIVE FILE UPLOAD TESTING

Access: Navigate to `/upload` or click "Upload Data" in navigation

Test Scenario A: PDF Lab Report
1. Click "Upload Data" in navigation
2. Fill in user information:
- Email: `test@example.com`
- Initials: `J.D.`
- Age: `35`
- City: `New York`
3. Upload a PDF lab report (or create a sample PDF with biomarker data)
4. Click "Upload & Analyze"
5. **Expected Result**: Comprehensive analysis with Ray Peat insights

Test Scenario B: CSV Biomarker Data
1. Create a CSV file with biomarker data:
```csv
Biomarker,Value,Unit
TSH,2.5,mIU/L
Free T3,3.2,pg/mL
Free T4,1.1,ng/dL
Cortisol,15,µg/dL
```
2. Upload via the same interface
3. **Expected Result**: Structured biomarker analysis

Test Scenario C: Image Upload
1. Take a photo of a lab report or create a sample image

2. Upload JPG/PNG file

3. **Expected Result**: OCR processing and analysis

2. STRUCTURED HEALTH ASSESSMENT TESTING

Access: Navigate to `/assessment` or click "Assessment" in navigation

Complete Assessment Workflow:

Step 1: Biomarkers Tab

1. Select common biomarkers from dropdown (TSH, Free T3, etc.)

2. Enter values and units

3. Add multiple biomarkers

4. **Test**: Remove and re-add biomarkers

Step 2: Symptoms Tab

1. Click on common symptoms (Fatigue, Brain fog, etc.)

2. Add custom symptoms

3. **Test**: Remove symptoms by clicking the badge

Step 3: Lifestyle Tab

1. Fill in diet description

2. Describe exercise routine

3. Detail sleep patterns

4. Explain stress levels

Step 4: Goals & Analysis Tab

1. Select health goals

2. Add custom goals

3. Configure analysis settings:

- Enable/disable memory enhancement

- Select analysis depth (Layer 1-3)

4. Click "Generate Memory-Enhanced Analysis"

Expected Result: Comprehensive analysis with personalized recommendations

3. HEALTH DASHBOARD TESTING

Access: Navigate to `/dashboard` or click "Dashboard" in navigation

Dashboard Features to Test:

Overview Stats

- Total Sessions counter

- Health Journey Entries

- Memory Entries

- Insights Generated

Health Trends Tab

- View biomarker trends over time

- Trend direction indicators

- Percentage changes

Recent Sessions Tab

- Analysis session history

- Session types and status
- Biomarker counts

Memory Insights Tab
- Memory system statistics
- Analysis activity summary
- Memory enhancement benefits

Quick Actions
- Test all quick action buttons
- Verify navigation to other pages

4. MEMORY-ENHANCED CHAT TESTING

Access: Navigate to `/memory` or click "Memory Chat" in navigation

Enhanced Testing Scenarios:

Scenario A: First-Time User
1. Enter User ID: `test-user-001`
2. Enter query: "Analyze my thyroid function"
3. Add lab data:
`TSH: 3.2`
  `Free T3: 2.8`
  `Free T4: 1.0`
4. Click "Analyze with Memory"
5. **Expected**: Basic analysis without historical context

Scenario B: Returning User
1. Use same User ID from previous session
2. Enter new query: "How have my thyroid levels changed?"
3. Add new lab data with different values
4. **Expected**: Contextual analysis comparing to previous data

Scenario C: Health Journey Loading
1. Click "Load Health Journey"
2. **Expected**: Historical trend visualization

5. RESULTS PAGE TESTING

Access: Results pages are accessed automatically after analyses or via direct links

Features to Test:

Summary Tab
- Analysis summary
- Positive indicators
- Risk factors

Biomarkers Tab
- Individual biomarker analysis
- Status indicators (normal, high, low, optimal)
- Ray Peat interpretations

Detailed Analysis Tab

- Comprehensive analysis text
- Ray Peat bioenergetic insights

Recommendations Tab

- Immediate actions
- Next steps

Context Tab

- Patient information
- Memory enhancement details
- Analysis metadata

Additional Features

- Download report functionality
- Share analysis results

Sample Test Data

Sample Biomarker Values for Testing

```
TSH: 2.5 mIU/L
Free T3: 3.2 pg/mL
Free T4: 1.1 ng/dL
Reverse T3: 15 ng/dL
Cortisol: 12 µg/dL
DHEA-S: 200 µg/dL
Pregnenolone: 50 ng/dL
Progesterone: 1.2 ng/mL
Estradiol: 45 pg/mL
Testosterone: 450 ng/dL
Vitamin D: 35 ng/mL
B12: 450 pg/mL
Folate: 8 ng/mL
Ferritin: 75 ng/mL
Glucose: 85 mg/dL
Insulin: 8 µIU/mL
HbA1c: 5.2%
```

Sample CSV File Content

```
Biomarker,Value,Unit,Date
TSH,2.5,mIU/L,2024-01-15
Free T3,3.2,pg/mL,2024-01-15
Free T4,1.1,ng/dL,2024-01-15
Cortisol,12,µg/dL,2024-01-15
Vitamin D,35,ng/mL,2024-01-15
```

Troubleshooting

Common Issues and Solutions

Issue: "Analysis failed" error
Solution:

- Check that all required fields are filled
- Ensure file size is under 10MB
- Verify file format is supported (PDF, CSV, JPG, PNG)

Issue: No memory context in results
Solution:
- Ensure "Enable Memory Enhancement" is checked
- Use consistent User ID across sessions
- Complete multiple analyses to build context

Issue: Empty dashboard
Solution:
- Complete at least one analysis first
- Check that User ID matches previous sessions
- Verify API endpoints are responding

Issue: File upload not working
Solution:
- Check file format and size
- Ensure all user information fields are completed
- Try with a different file type

Success Criteria

Phase 2 Feature Testing Checklist

- [ ] **File Upload**: Successfully upload and analyze PDF, CSV, and image files
- [ ] **Structured Assessment**: Complete full assessment workflow with biomarkers, symptoms, lifestyle, and goals
- [ ] **Dashboard**: View comprehensive health dashboard with stats, trends, and history
- [ ] **Memory Chat**: Conduct contextual conversations with memory enhancement
- [ ] **Results Visualization**: View detailed analysis results with Ray Peat insights
- [ ] **Navigation**: Seamlessly navigate between all pages
- [ ] **Data Persistence**: Verify that user data and sessions persist across interactions
- [ ] **Error Handling**: Test error scenarios and verify appropriate error messages

Advanced Testing Scenarios

Multi-Session Testing

1. Complete analysis as User A
2. Switch to User B, complete different analysis
3. Return to User A, verify personalized context
4. Test cross-user data isolation

Longitudinal Testing

1. Complete initial analysis
2. Wait or simulate time passage
3. Complete follow-up analysis with different values
4. Verify trend analysis and progression tracking

Edge Case Testing

1. Upload very large files (test size limits)
2. Enter extreme biomarker values
3. Use special characters in text fields
4. Test with empty or minimal data

API Testing (Advanced Users)

Direct API Testing

If you want to test the backend APIs directly:

```
# Test comprehensive analysis
curl -X POST http://localhost:3000/api/comprehensive-analysis \
  -F "file=@sample_lab_report.pdf" \
  -F "email=test@example.com" \
  -F "initials=J.D." \
  -F "age=35" \
  -F "city=New York"

# Test memory-enhanced analysis
curl -X POST http://localhost:3000/api/health/memory-enhanced-analysis \
  -H "Content-Type: application/json" \
  -d '{
    "assessmentData": {
      "type": "comprehensive",
      "biomarkers": [{"name": "TSH", "value": 2.5, "unit": "mIU/L"}]
    },
    "enableMemoryEnhancement": true,
    "layerPreference": 2
  }'
```

Feedback and Reporting

What to Test and Report

1. **Functionality**: Does each feature work as expected?
2. **User Experience**: Is the interface intuitive and easy to use?
3. **Performance**: Are analyses completed in reasonable time?
4. **Accuracy**: Are Ray Peat insights relevant and helpful?
5. **Memory Integration**: Does the system remember and use previous interactions?

Bug Reporting Format

When reporting issues, please include:
- **Page/Feature**: Which page or feature had the issue
- **Steps to Reproduce**: Exact steps that led to the problem
- **Expected Result**: What should have happened
- **Actual Result**: What actually happened
- **Browser/Device**: Your testing environment
- **Screenshots**: If applicable

Next Steps After Testing

After completing Phase 2 testing:

1. **Document Results**: Record which features work well and which need improvement
2. **Identify Gaps**: Note any missing functionality or user experience issues
3. **Prioritize Improvements**: Rank issues by severity and user impact
4. **Plan Phase 3**: Use testing feedback to inform Phase 3 development priorities

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Note: The development server is running on `http://localhost:3000` . All Phase 2 features are now accessible and testable through the user interface.