



***Enabling Meaningful Collaboration throughout the Healthcare Continuum***

[www.tolvenhealth.com](http://www.tolvenhealth.com)

[www.tolven.org](http://www.tolven.org)

<http://wikiHIT.org>

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# ***Agenda***

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- Introduction
- Paradigm shift in healthcare informatics
- Open Source
- Example use-cases
- Summary
- Questions and Answer

## ***Paradigm Shift in Demands***

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- **Affordable, Scalable, Standards-Based Healthcare Solutions**
  - Electronic Medical Records proven to reduce costs and patient risk
  - Integration with existing healthcare solutions
  - Transportable healthcare records
  - Consumer engagement
- **Consumer Access to Personal Healthcare Records**
  - Individuals increasingly engaged in their own healthcare management
  - 66% of US consumers surveyed prefer electronic access (Markle 2006)
  - 70% want access to check for errors (Markle 2006)
- **Open Source**
  - National agencies requiring open source solutions (US and elsewhere)
  - FLOSS – services 4% of EU GDP by 2010 (UNU-Merit 2006)

# Realizing the Vision

- **Open Source, Collaborative Platform for Healthcare**

- Enables meaningful collaboration throughout the healthcare continuum
- A highly adaptable platform for secure health data management
- Designed to support many healthcare environments
- Reference implementation of health and technology standards

- **Tolven End User Solutions**

- Example applications for consumers and physicians
- Framework for further rapid application development
  - Web-browser interface
  - Mobile and static devices

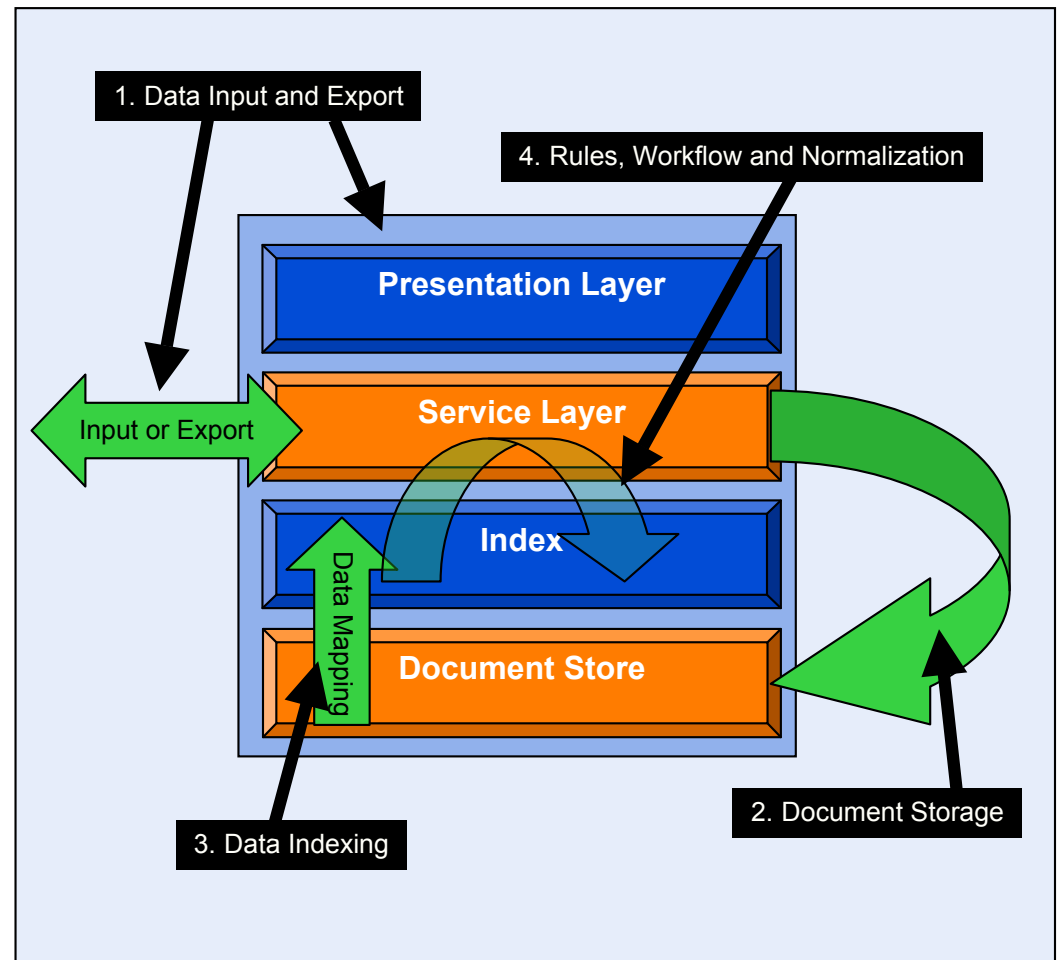


- **Tolven Extensions**

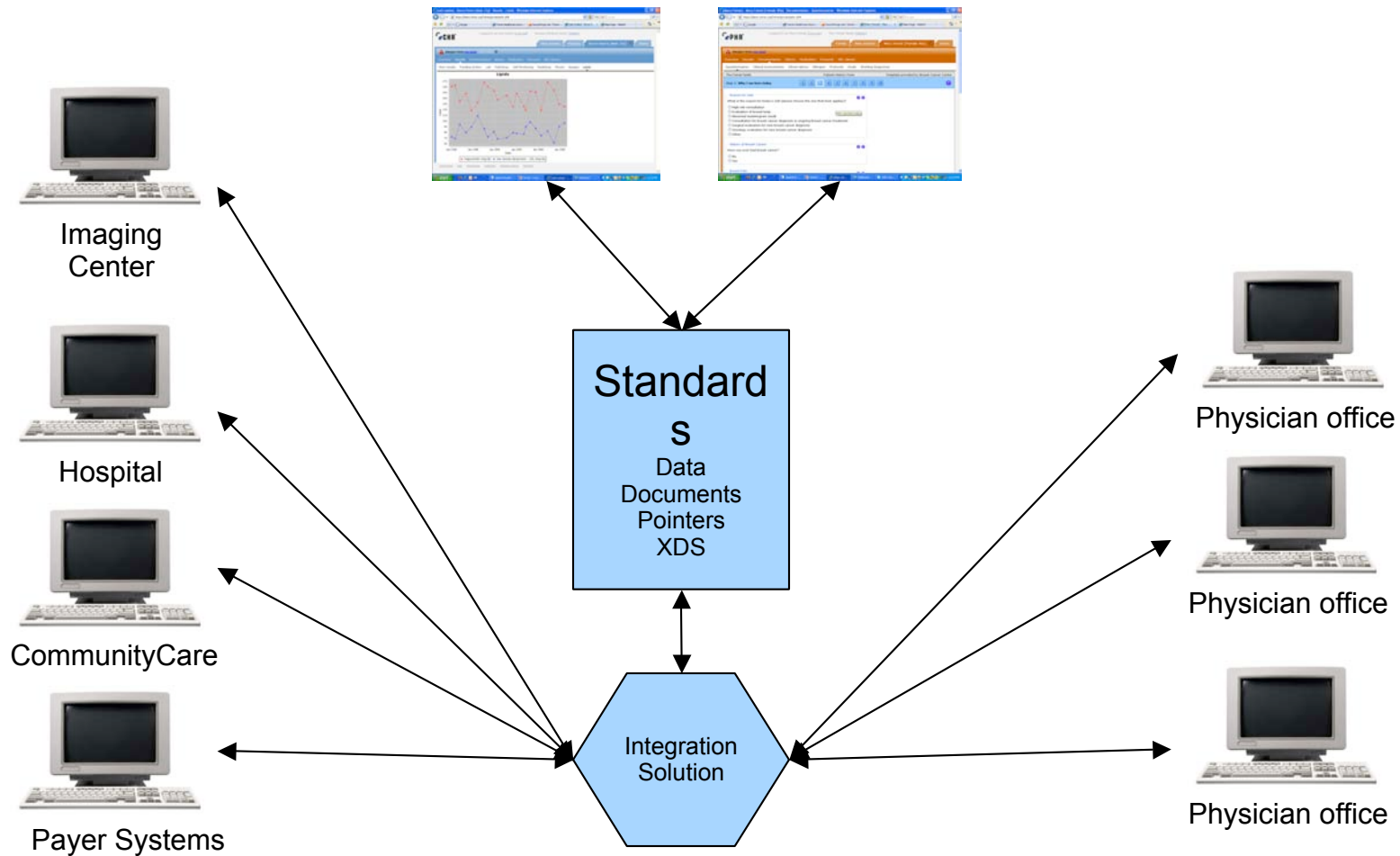
- An ecosystem for the development of innovative extensions to the Tolven end user solutions

# The Platform

- **Open Source**
  - L-GPL license
- **Standards-Based Solution**
  - Continuity of Care Record index
  - HL7 data types
  - UMLS coding
  - EJB3, JME, web services, etc.
  - LDAP, SSL, PKI, etc.
- **Service Architecture**
  - Business process support
  - Rules engine
  - Third party system integration
- **Technology Independent**
  - Support for commercial and open source products



# Deployment Options

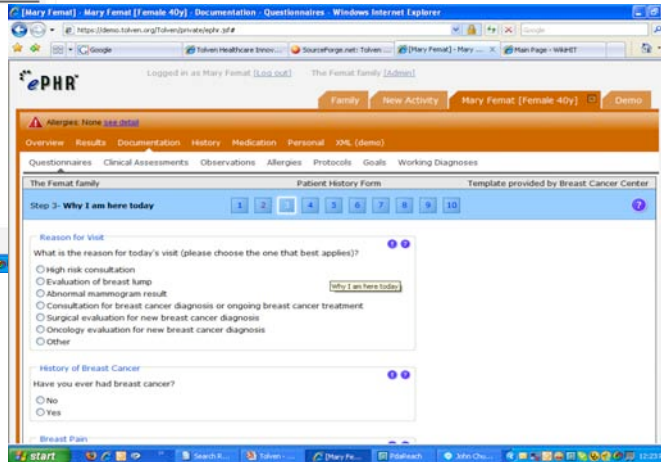


# Demonstration

## Clinician Health Record



## Personal Health Record



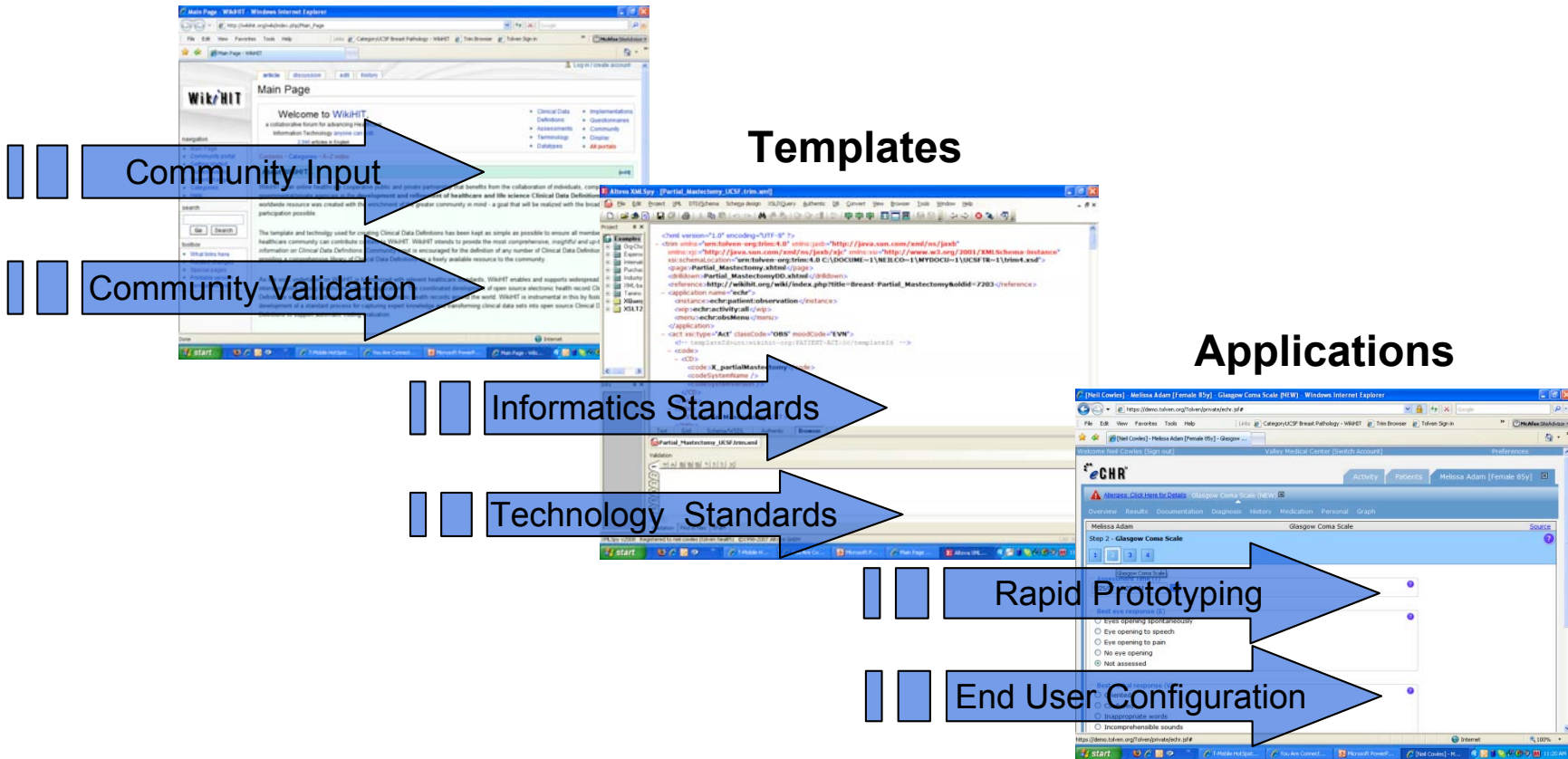
The screenshot shows a web browser window with the URL [https://demo.tolven.org/Tolven/private/chr\\_3f#](https://demo.tolven.org/Tolven/private/chr_3f#). The page displays a patient history form for a patient named Mary Femat (Female 40y). The form is titled "Patient History Form" and includes sections for "Reason for Visit" and "History of Breast Cancer". The "Reason for Visit" section asks "What is the reason for today's visit (please choose the one that best applies)?" and lists several options: "High risk consultation", "Evaluation of breast lump", "Abnormal mammogram result", "Consultation for breast cancer diagnosis or ongoing breast cancer treatment", "Surgical evaluation for new breast cancer diagnosis", "Oncology evaluation for new breast cancer diagnosis", and "Other". The "History of Breast Cancer" section asks "Have you ever had breast cancer?" with options "No" and "Yes".

## Mobility and Device Integration



# Rapid Development

## WikiHIT.org



## Collaborative Design and Application Development



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# ***Open Source Approach***

# The Open Source Advantage

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- Proven Underlying Open Source Components
  - Promotes re-use of existing components rather than re-build
  - Lower cost of ownership and proven scalability
- Professional and Technical Communities Involvement
- Transparency: *"It does what it says on the tin"*
- Radical Transformation of the Software Marketplace
  - Core technology (e.g., O/S, DB, AS, workflow, rules)
  - Business systems (e.g., analytics, financials, CRM, HCM)
  - Desktop (e.g., O/S, desktop, collaboration software)

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# ***Summary***

# Summary

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- To be successful a solution needs to offer
  - Flexibility
    - Complement existing solutions
    - Supplement existing solutions
    - Integrate with existing solutions
  - Affordability
    - Open source applications and technology
    - Proven scalability
  - Security
    - Encryption
    - Consumer control