Edge Mashups for Clinical Collaboration

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Edge Mashups for Clinical Collaboration

- **Platform objective:** empower non-programmers to build applications for real-time collaboration
- **Research challenges:** share information in a federated environment while providing accountability through HIPAA compliant access logging and data retention
Example use-cases

• Expert-assisted surgery
  • Can call a remote expert for advice if complications arise

• Micro-clinics
  • Nurses present on-site
  • Doctors write prescriptions remotely
  • Improved decision making before sending patient to a specialist
<table>
<thead>
<tr>
<th>Medication</th>
<th>Prescribed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroquine</td>
<td>10/12/2009</td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>12/6/2008</td>
</tr>
<tr>
<td>Quinine</td>
<td>3/14/2006</td>
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</tbody>
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Architectural Overview
Platform Capabilities

• Data privacy and auditability
  – Break-the-glass access control
  – Log appropriate checkpoints of application state
• Low latency to maintain interactive look and feel
  – Simultaneous updates from multiple workstations, while keeping views consistent enough for auditability
• Hosting medical applications in the cloud
  – Generic server to facilitate arbitrary applications
  – Move application logic dynamically between the workstations and the cloud
  – Scale to large deployments