A Complete Clinical Data repository based on HL7 FHIR
Background

Smile is a database for shared health records built on an abstract data model that mirrors FHIR information model.

Use cases include:

- Storage and retrieval of longitudinal records for jurisdictional health organizations
- Storage and retrieval of large numbers of records generated by medical devices
- Terminology server
- Accelerator and cache for clinical data
- Archival storage of clinical records
- Rapid development for health applications that need to store data

Prior work with large SHR and longitudinal record implementations exposed us to the challenges of implementing solutions with existing tools.
Complete FHIR Support

Powered by HAPI FHIR

We support all published versions of FHIR in parallel

This includes stable long term support for published versions and immediate bleeding edge support for upcoming versions
Hybrid Database Design

Structured data is preserved

All contents are Full Text indexed too
Integrated Terminology Services

Terminology support is built in
Easy Management: Web Console

A complete administrative console may be used to manage and monitor the system.
Management: JSON/Swagger API

Control the system with scripts
Security: Authorization

Set up roles and permissions for your users
Security: Audit

Understand who has seen and changed what
## Security: User Manager

Create users and assign permissions

<table>
<thead>
<tr>
<th>Module</th>
<th>Username</th>
<th>Family Name</th>
<th>Given Name</th>
<th>Last Active Date</th>
<th>Roles and Permissions</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modify</td>
<td>ADMIN</td>
<td>Admin</td>
<td>GenericUser</td>
<td>2017-02-17</td>
<td>Superuser</td>
<td></td>
</tr>
<tr>
<td>Modify</td>
<td>ANONYMOUS</td>
<td>Anonymous</td>
<td>Anonymous</td>
<td>2017-01-30</td>
<td>Anonymous, FHIRE Client (Superuser)</td>
<td></td>
</tr>
<tr>
<td>Modify</td>
<td>FSMITH</td>
<td>Smith</td>
<td>Frederic</td>
<td>2017-01-15</td>
<td>Read-Only</td>
<td></td>
</tr>
</tbody>
</table>
Security: Federated Models

Integrate with existing authentication infrastructure
Monitoring

Understand how the system is performing
Profiling and Validation

Smile CDR can be used as a profile registry to store and manage profile resources.

A complete validation engine can be used to enforce compliance.
Flexible Data Integration Options

In addition to FHIR data APIs, an integrated set of HL7 v2.x interfaces may be used to keep data up to date.

ETL tools can also be used for batch imports.
Flexible Deployment Models

Smile CDR is designed to scale horizontally as you grow
Deployment models

Smile CDR supports several configurations:

- Cloud deployment, fully managed
- Local deployment, fully managed
- Local deployment, locally managed

Configurable options:

- Multiple database options; Oracle, MariaDB, PostgreSQL, MySQL, Derby
- Clustered configuration for high availability
- Geo diversity across disparate data centers
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