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**Required Skills:**

(List skills needed) -  
Java, Postgres, Hadoop

**Preferred Team**

**Communications:**

Conference Call, Google Hangouts,  
email

**Data Sources:**

The architecture involves both FHIR endpoints and i2b2 instances. So far, there is some existing public FHIR endpoints with fictive data. i2b2 provide an easy to install docker image. Both i2b2 and HAPI FHIR source code are available on github as well as the i2b2/fhir existing prototype.

**Other Items:**

Easter time zone is preferred

**Team Info:**

Needs a Developer and a DBA. Allows one team of 4-6 members.

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I2B2 IMPLEMENTED OVER FHIR

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i2b2 is a java based open-source patient cohort discovery tool that enable mining patient health records (EHR). More than 200 hospitals are using it worldwide an its spread is limited by the complexity of transforming the EHR informations into the i2b2 star schema in a relational database.

HL7-FHIR is a RESTFUL specification to share medical informations and HAPI FHIR is one of the open source existing java implementation.

A recent study[1] has proven that both tools can be combined to allow large scale

cohort discovery over multiple hospitals, and bring to i2b2 more flexibility and velocity. In particular the results shows that the traditional RDBMS can be replaced by new big-data technologies consumed by an HAPI FHIR endpoint while keeping all i2b2 functionality intact. Still

some development are needed to make the i2b2/fhir production ready.

[1] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5961782/>

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PROJECT OBJECTIVES

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This project aims is to make the existing prototype be production ready, in particular:

- Scalability : allow querying multiple FHIR endpoint in parallel
  - Security : secure access to multiple FHIR endpoints
  - Stability : make the tool be stable in any circumstance
  - Velocity : optimize the code to provide the best performances
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SUCCESSFUL PROJECT

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To be discussed...

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**Intellectual Property: Open-source**