Title: Apache Fineract Credit Bureau Integration Phase 2.

Overview/ Background:

During Phase 1 of Credit Bureau Integration project, the focus was on Credit Bureaus from India region. Initial modifications were done in Loan and Client modules to accommodate a standalone credit bureau module. However, as Apache Fineract is Open Source core banking platform used globally, the demand is to make this module more generic to accommodate global credit bureaus. Phase 2 of credit bureau integration aims to provide flexible infrastructure which facilitates on boarding of new credit bureau in Apache Fineract Platform.

Scope and deliverables:

The deliverables of the project would be as follows:

1) Credit bureau Module which will provide framework to integrate multiple credit bureaus in Apache Fineract.
2) The existing standalone client which communicates with single credit bureau (Equifax) would be plugged in to generic framework.
3) Design and implementation of Reporting platform (scope would be limited to Equifax initially).
4) Extensive documentation which will cover onboarding of new credit bureau.
5) Front End support in Mifos Community App for Credit Bureau Integration module.

   If time permits following deliverables would also be accommodated:
1) Integration of Indian or non-Indian credit bureau in Apache Fineract.
2) Making Reporting Platform Generic to support multiple credit bureaus.

Benefits to the Community:

There is already a growing chorus in community for credit bureau integration in Apache Fineract. Once this module becomes production ready, Client Institutions would have out of the box ability to screen the loan applicant's credit history. This feature would make loan approval process easier for client institutions by making them more informed about the loan applicant's credit check. Besides screening loan applicants, Credit Bureau reporting module

would give client Institutions the ability to fulfil reporting requirements of Credit Bureaus.

Timeline

Time span	Deliverables
April 4 – May 11	• Getting Credit Bureau configuration module merged.
May 12 – May 30	• Engage with the community to design the Credit Bureau Integration Module and getting it approved before coding begins. • Make appropriate changes in Front end of Credit Bureau configuration module and getting it merged.
May 31 – June 14	• Implement credit bureau integration module and get feedback from community.
June 15 – June 29	• Migrate existing standalone client to new Credit Bureau Integration module. • Implement changes suggested for credit bureau integration module, if any.
June 30 – July 14	• Design and develop front end for credit bureau integration module.
July 15 – July 31	• Design and develop Reporting module specific to Equifax reporting standards.
August 1 – August 15	• Prepare documentation for the module. • Design and execute integration test cases. • Start work towards getting the code merged into production repository. • Showcase the work to clients and get feedback.
August 16 – August 21	• Consolidate the work for final submission.

	• Buffer period to handle any un expected issues.

Previous contribution to Open Source/Community Engagement

During my previous Google summer of code 2016 Internship with Mifos Initiative, following features were added to Mifos and Apache Fineract code base:

Apache Fineract:

- Address Module backend:

  https://github.com/apache/incubator-fineract/pull/203

- Credit Bureau configuration module: (Under review)

  https://github.com/apache/incubator-fineract/pull/320

- SQL fix for Address Module:

  https://github.com/apache/incubator-fineract/pull/235

- Null pointer fix for Address Module:
  https://github.com/apache/incubator-fineract/pull/271

Mifos Initiative:

- Front End for Address Module:
  https://github.com/openMF/community-app/pull/1631

Besides above contributions, I have served as a Mentor in Google Code In 2016 with Mifos Initiative.

https://codein.withgoogle.com/tasks/5657474195521536/?sp-organization=5084291717398528&sp-categories=3

About Me:

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I am a Graduate Student at University of Texas at Arlington, pursuing Masters in Computer Science. Currently I am in my third semester with CGPA of 3.5. My interests include Software Engineering, Database Systems, Cloud Computing and Web development. I am Full stack developer having following skills:

- Front End/ Web development: Javascript, AngularJs, Bootstrap, HTML and CSS.
- Back End/Core Languages: Java.
- ORM and other Java frameworks: Hibernate, Spring Framework.
- Database Systems: Oracle 11g -12c and Mysql.
- CVC: GIT.
- Cloud Platform: Amazon Web Services. (Elastic MapReduce and Simple storage service).
- Other tools: Matlab.

Are you applying to multiple organizations this year?

No

Other commitments:

None.

Why I am the right person for this project?

Since my last summer internship at Mifos, I have established working relationships with community members of Apache Fineract and Mifos Initiative. This bonding not only helps in reducing the review cycles of pull requests but it also helps to gather consensus for design reviews. Also, as I am associated with both the communities for more than a year now, I have got hands on experience with the product and I am well versed with the coding standards and best practices of the community.

As this is phase two of my project, I have clear understanding of the requirements and expectations of the community with respect to credit bureau integration project.