**Specific Project Under that Research and Development Agreement by and between Rose-Hulman Institute of Technology and Logical Concepts, Inc. d/b/a OmniSite dated March 20th, 2014.**

***BAKKLE***

Purpose

This proposal is to provide an overview of the work that RHIT intends to perform in collaboration with OmniSite through RHIT’s Rose-Hulman Ventures(RHV) program, and to set the general expectations for the cost and timeframe of the project. The timeframe described here is a best estimate by RHIT based on past experience with similar projects and similar sized teams.

**Problem Summary**

OmniSite is working on a new initiative, called Bakkle for the rest of this scope document.

Bakkle has a concept for a new “connection” app that would allow users to sell, list, browse, and buy items in an online-marketplace. Some specifications and UI layouts have been drawn up but the detailed design still needs to be completed.

Bakkle desire an initial proof-of-concept mobile application that would function on an Apple iPhone device. The proof-of-concept is intended for investor demonstration and also use by the Bakkle team to prove out the design.

Bakkle have suggested using a hybrid architecture for the mobile application consisting of two parts: an iOS ‘frame’ application and a backend server. The frame application would be an installable iOS application that would display content from Bakkle’s backend server.

**Proposed Project**

RHV proposes to build a system comprised of an iOS application and a backend server to create the proof-of-concept. The prototype would have the following features:

1. iOS ‘frame’ application.
   1. Supports login and storage of authentication tokens,
   2. Displays core UI screens from the back-end server.
2. Back-end server to provide the following functionality:
   1. Storage of user accounts,
   2. Storage and distribution of items in the Bakkle feed,
   3. User screens for the following functions:
      1. Home (the feed) – This screen would display items available in the Bakkle feed. Users can delete, hold, report, or purchase the items shown.
      2. Dashboard – This screen would allow user to switch between the functional screens in the software (settings, buyers trunk, feed, etc.)
      3. Buyer’s trunk – This screen shows items that are now in the purchasing process, awaiting feedback from the seller.
      4. Seller’s garage – This screen allows user to manage his/her inventory of items for sale.
      5. Seller’s Listing – This screen allows user to create new seller listing in his/her garage by accepting a picture upload, description, price, and delivery method.
      6. Chat – Allows message transfer between Bakkle users.
      7. Feedback – Allows user to leave feedback after a transaction.
      8. Settings – Allows user to change settings (name, contact, gender, photo, password, payment type)

This project is intended to be a proof-of-concept; as such several features or characteristics required of a production quality application are not goals and likely would not be part of the final project.

1. Application need not be intentionally scalable to high-volume use. Target volume is <200 simultaneous users with 25 items listed per user.
2. Payment system will not be functional. Screens will be present simulating a transfer of funds but will not be connected to an actual payment gateway such as Apple Pay, Google Wallet, Venmo, or paypal.

The first phase of this project is expected to be a mockup phase where Bakkle’s concepts are converted into non-functional screen layouts. This mockup will run on Bakkle’s test iPhone device and allow them to provide feedback on the screen layouts before functionality is added.

Expected deliverables include:

* iOS frame application installed on Bakkle’s test devices.
* Backend server installed on Bakkle’s EC2 cloud system.
* Technical documentation for installing and configuring the backend server.
* Source code.
* Test plans and any harnesses created to test the software.

Bakkle are interested in potentially contributing to the software development effort through time from two high-school students. RHV welcomes the interaction but notes effective collaboration would require to be or become familiar with the development tools quickly. Interaction with the Bakkle team members could slow the team’s progress

**Project Timeframe**

The proposed project work is expected to take approximately 3.5 months to complete. Regular deliverables at appropriate milestones will be planned. Deliverables will likely be planned in 1-2 week intervals after an initial kickoff phase during which the team will become acquainted with Bakkle’s detailed specifications. During this time the team will also select and establish an appropriate development environment. In addition, weekly status meetings and teleconferences are planned.

**Required Resources**

RHV will need Bakkle to provide examples of the listings and detailed depictions of the User Interface. RHV provides workstations and development server for the team during development, but Bakkle will need to provide access to a cloud computing environment which we will deploy the application to for their testing and investor demonstrations. This is a 3rd party service such as Amazon EC2 and is estimated to cost under $100/month during development.

RHV will assign 1 project manager on a part-time basis during the course of the project. The RHV project manager will drive progress, function as the senior engineering on the team, and act as the primary point of contact for Bakkle at RHV. Project manager time is estimated at 25-30 hours per month.

A development team of 2-3 student interns will be assigned to the project. These student interns will work part-time (8-12 hrs/week) during the academic year (Sept-May) and full-time (~150 hrs/month) during the summer (June-Aug). Total intern time is expected to be in the range of ~100 hours per month. It is expected that their majors will be Computer Science or Software Engineering.

**Support from Client**

RHV understands that Bakkle has other demands on their resources, and that RHV needs to take the lead in this development initiative. However, it is important that Bakkle provides input into and stays engaged with all phases of the project. Bakkle understands the demands of the field conditions as well as the standards and procedures to which the prototype is expected to comply. Furthermore, RHV is expected to be involved with the project only through turnover of the functional prototype and its related documentation unless development beyond the scope of this proposal is warranted and part of a new proposal. The path forward beyond the functional prototype needs to be directed and driven by Bakkle. Any milestones or targets RHV needs to achieve in this prototyping project to facilitate continued development beyond RHV’s prototype will need to be identified and coordinated by Bakkle. In many ways the quality of the targeted outcomes are expected to be proportional to the level of engagement Bakkle maintains.

**See budget estimate spreadsheet for more detail.**