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|  | **IIM** |
|  | Hengtian Software  Zhong Dai  V0.1 |

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| **[PROpoSAL OF iim BACKEND ]** |
| Prepared for Pier7Mobile, by Insigma Hengtian Software |

## Executive Summary

This document is to define the scope and estimate effort of IIM backend solution. IIM App is an iPad based application, which is an information delivery client for end users. IIM backend is a SOA based solution to provide the accessibility for IIM App. There are three major parts of IIM backend, IIM Web, IIM Service and Daemon Process.

The effort estimation as below

* IIM Web and infrastructure 21 man-days
* IIM Service 8 man-days
* Java Process 7 man-days
* Test and Documentation 10 man-days

Insigma Hengtian will quote on the basis of a fixed price for such a small project. The average hourly rate is $20 per resource, and the total effort estimation is 46 man-days. Then the amount of cost for this project is $7,360. The payment is made by twice, 50% after the kick-off and another 50% after the project delivery.

## IIM Backend Architecture



Diagram IIM Backend Architecture

1. IIM Server is a LAMP based solution, there are below major modules
   1. IIM Web – web site for user perform normal operation, such as registration, upgrade account
   2. IIM Service – a set of RESTFul API consumed by IIM App
   3. Daemon Process – a Java process to fetch email from Google App and store files to box.com storage
2. Connection 1 – Java daemon process access Google App Mail through POP3
3. Connection 2 – User access IIM Web through HTTP/HTTPS
4. Connection 3 – IIM App consume APIs of IIM Service through HTTP/HTTPS
5. Connection 4 – All modules may access box.com through box.com API

## IIM Backend Modules



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| --- | --- | --- | --- |
|  | Java Mail Class | Box.net API | MySQL Access |
| IIM Service | n/a | 1. get user profile of box.net 2. redirect to box.net login page | 1. get Notes data 2. verify login 3. registration |
| IIM Web | n/a | 1. create box.net account 2. get necessary information about box.net account | 1. Create IIM user 2. Update IIM user profile 3. Payment process 4. Upgrade process |
| Java Process | Access Google Mail through POP3 | 1. Send email attachment to box.net | 1. Write the log |

## Estimation

### In scope

1. The Web page development with PHP + MySQL technology
2. The API development with PHP + MySQL technology
3. The Daemon Process development with Java
4. The configuration of Apache, PHP and MySQL
5. The system test and test report

### Out of scope

1. The UI/UE design, Pier7Mobile would provide the PSD file of Web pages
2. The deployment of Web site, Web service and Java program

### Assumption

1. Insigma Hengtian can access Google product without any spam from Mainland
2. Insigma Hengtian can access the Payment Gateway without any span from Mainland

### Effort and Resource

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| --- | --- | --- | --- |
|  | Function Point | Effort (man-day) | Tasks |
| IIM Web and infrastructure | Framework | **5** | PHP framework setup |
| UI implement and discussion | **4** | Convert the PSD to html and feedback for small change |
| Registration Page | **4** | Personal / Company sign up form, and enable box.net account, send back the notification email |
| Payment Gateway | **5** | Google Checkout / Paypal |
| Other Pages | **3** | About Us, Contact Us page, Latest Post page |
| IIM Service | API (about 10 interfaces) | **8** | Database design almost done, implement the data query and data save, get file id from box.net |
| Java Process | POP3 Access | **4** | Download the Email body and encoded attachment |
| Post to box.com | **3** | Post the attachment to box.net storage based on rules |
| Test | Web Test | **3** | End to end Web test |
|  | API Test – use simulator | **3** | Develop the simulator to go through each interface |
|  | Email Handler Test | **2** | End to end test for the email handler process, large file and multiple attachments test |
| Documentation | API Doc  DB Design Doc | **2** | API Doc for the development of next stage |
| Total |  | **46** |  |

One part-time PM and two developers are allocated for this project. Regarding the technologies the project used, the two developers should have Java and PHP background.