**Software Engineering CSC4350**

**Spring 2016**

**Automated Student Calendar**

**Project Team 3**

**Document #4**

3/6/2016

**Joseph Yun** – Team coordinator / Documentation

**Todor Guichin** – Programming architect

**James Jackson** – Back-up programmer

**Alex Shyu** – Programmer (Data base)

**De’jon Miller** – Programmer (UI implementation)

**Database –** SQLite

**Software Architecture –** Android (Java)

**UFP (Weighting Factor Estimate)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Weighing Factor Estimate** | | | | | | |
| **Measurement Parameters** | | | | | | |
|  | **Count** |  | Value | Category |  |  |
| **Number of User Inputs** | 1 | x | 3 | Simple |  | 6 |
| **Number of User Outputs** | 4 | x | 5 | Average |  | 20 |
| **Number of User Inquires** | 1 | x | 4 | Average |  | 4 |
| **Number of Internal Files** | 1 | x | 10 | Average |  | 10 |
| **Number of External Interface of files** | 3 | x | 7 | Average |  | 21 |
| **Grand total (FP)** | | | | | | 61 |

(Picture)

(Calendar, Browser, History, book history)

(Login ID)

(User file [History])

(Native Browser, Native Calendar app, Tesseract OCR)

**Rating Estimate of Categories (VAF)**

|  |  |  |
| --- | --- | --- |
|  | Category | Rating |
| 1 | Does the system require reliable backup and recovery | 0 |
| 2 | Are data communications required | 0 |
| 3 | Are there distributed processing functions | 0 |
| 4 | Is performance critical | 4 |
| 5 | Will the system run in existing, heavily utilized operational environment | 3 |
| 6 | Does the system require online data entry | 0 |
| 7 | Multiple Screens or Operations | 5 |
| 8 | Are the master files updated online | 0 |
| 9 | Are the input, output, inquires complex | 2 |
| 10 | Is the internal processing complex | 4 |
| 11 | Is the code designed to be reusable | 5 |
| 12 | Are conversions and installations included in the design | 2 |
| 13 | Is the system designed for multiple installations for different organizations | 4 |
| 14 | Is the application designed to facilitate change and be ease of use to the user. | 5 |
|  | Total sum of all category ratings | 34 |

**Value Adjusted Factor Calculation (VAF)**

VAF = [0.65 + 0.01 \* (sum of all category ratings)]

0.65 + 0.34 = 0.99

**Functional Point Cost (FPC)**

FPC = UFP \* VAF

61 \* 0.99 = **60.39**

**RTM**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Entry** | **Paragraph** | **Shall** | **Type** | **UseCaseName** |
| 1 | 1 | **LSC** shall automatically collect important dates, contact information, and textbook ISBN | SW | Use case #1 |
| 2 | 1 | **LSC** shall use phone camera and OCR\* API\* to scan images for relevant information. | SW, HW | Use case #1 |
| 3 | 1 | **LSC** shall allow user (mainly students) to create username/ password which will hold unique account information. | SW, SWC | (Login system) |
| 4 | 1 | **LSC** shall look up book prices based on ISBN found in the syllabus. | SW, SWC | Use case #4 |
| 5 | 2 | **LSC** shall allow user to input dates manually through native calendar application. | SW, SWC | Use case #3 |
| 6 | 2 | **LSC** shall allow user to look up book prices at a later time upon users’ choosing. | SW | Use case #5 |
| 7 | 2 | **LSC** shall contact professor/ TA upon image capture or at users’ choosing time | SW | (Not yet determined)  “Nice to have” |
| 8 | 2 | **LSC** shall use native mobile browser for textbook search. (prices) | SW | Use case #4 |
| 9 | 2 | **LSC** will assume that students’ phone meet minimum SDK\* requirement. | SWC | (System requirement)  No use case used |
| 10 | 2 | **LSC** shall store the data extracted from images in internal phone memory using a database (undecided). | SW | Use case #1 |
| 11 | 2 | **LSC** shall use “Google Play store” to update its version | SW | (System requirement)  No use case used |

**Terminology**

* **LSC –** Lazy Student Calendar
* **OCR –** Optical Charter Recognition
* **API –** Application Program Interface
* **SDK –** Software Development Kit
* **Google Play Store –** Place for android application downloads/ updates