

INF2040 Project Management

CASE STUDY - Information Systems Design - Game Masters Canada

Group 11 - Group Members:

Joy Musa, Michal Telem, Assel Kushkeyeva, Sara Maston, Yanqi Li

Date: May 19, 2020

1. Project Description & Purpose

This project undertakes to design, test and deploy a mobile application of Scrabble for the use of the iSchool students and faculty (hereinafter: **“iSchool Scrabble”**), within the University of Toronto (hereinafter: **“UofT”**). The main purpose of the game is to strengthen an industry-specific terminology knowledge base across the eight concentrations of the iSchool, and Museum Studies.

Information professionals are expected to have a wide range of skills. Although the job market experiences a shortage in information professionals¹, one of the biggest challenges for a new graduate is to articulate and present their skills gained during their studies. For instance, Library and Information Science graduates can apply themselves as a researcher or consultant both in public and private sectors; Information Systems and Design produces not only data scientists but business analysts, information architects, and network administrators, to name a few². The title of a concentration does not always reflect the full spectrum of related career options. While the flexibility of the program is a definite advantage, students need to be able to make tangible connections between the studies and job market demands as early as possible in the studies.

This project aligns with the strategic priorities of Game Masters Canada (hereinafter: **“GMC”**) by increasing the exposure of GMC in the mobile game market and its user base. It will also enable GMC to develop an industry based platform that could be used for future projects, outside of UofT (for instance the same platform and dictionary could be used for the I.T

¹ CBC News, 2019

² University of Toronto, Faculty of Information, 2020

industry). Moreover, if this project succeeds, it could open the door for similar projects which would allow GMC to expand to other industries.

2. Scope Inclusions & Exclusions of the Project

This project scope is to design, test and deploy the “iSchool Scrabble”. The iSchool Scrabble will be based on the general mobile Scrabble game previously launched by GMC, while adding new functionalities and features to make it friendlier for group play, and more suitable for an academic, professional setting. Like its mother application, the iSchool Scrabble will be available for downloading on Apple and Google Play stores for free, and can be played on both IOS and Android devices. This iteration of the game will only accept words related to one of the areas of study in the iSchool³.

Scope inclusions (including new features and functionalities):

- Login feature, using the user’s UTORid, to allow for iSchool students and faculty to play on their own platform, with no other parties,
- The process of authentication of UTORid and the required interaction with UofT’s Acorn System.
- History feature tracks the user’s averages, scores and times and personal records. This will allow for faculty to offer prizes for records holders, if they choose to do so,
- A ‘teacher’ feature, presents the user with the best word fit for their position,
- An in-app chat feature, allows for players communication throughout the game,

³ ARM: Archives & Records Management, C&T: Culture & Technology, CIPS: Critical Information Policy Studies, HCDS: Human Centered Data Science, ISD: Information Systems & Design, KMIM: Knowledge Management & Information Management, LIS: Library & Information Science, UXD: User Experience Design, and MMSt: Museum Studies.

- A ‘Smart Match’ feature, allows for users to find like-minded peers based on mutual interests,
- A built in dictionary that includes all of the words that are permitted for use on iSchool Scrabble,
- Display of selected advertisements for showcasing potential employers, faculty events and other areas of interests of students and faculty,
- Any non-university related advertisements will not be displayed on the iSchool Scrabble,
- Ensuring that GMC will own the copyrights of the iSchool Scrabble including its dictionary.

Scope exclusions:

- The marketing and launching of iSchool Scrabble and related documentation or events,
- The creation and the update of the iSchool dictionary will be done by a team of students and faculty appointed by the iSchool,
- Support and maintenance,
- The approval, upload and update of selected advertisements,
- Training, including training of iSchool administration as to managing advertisements.
- iSchool Scrabble will not support languages other than English at this stage.
- Any interaction with UofT’s information system except for Acorn.
- iSchool Scrabble will not be compatible with devices other than IOS and Android.
- Incorporation of the iSchool branding and ‘Look and Feel’.

The Scope of iSchool faculty involvement includes:

- Marketing and launching of the iSchool Scrabble,
- Creating and updating the iSchool Scrabble dictionary,
- Providing the testing environment and students lists for testings,
- Approving uploading and updating advertisements.

3. Project Expenses & Funding

Direct Labour

Developer based in Canada (100h at \$75)

Visual Design(65h at \$75)

UX Design (20h at \$75)

Copyediting (45h at \$25)

Direct labour total: **\$15,000**

Services

Quality Assurance Agent (18h at \$60)

Product Testing ((12/h at \$18) * 10 people) * 2 phases

Project Manager (Total Project Cost * %15 = EST \$6,094.5)

Services total: **\$11,494.5**

Overhead

Includes:

- Rent of office / studio production space (\$2,500)
- Utilities (\$350)
- Security System (\$95)
- Phone Service / Internet Service (\$120)
- Printer (\$25)
- Cell phones and Tablets (different models and operating systems) (\$3,800)
- Coffee and snacks (\$40)

10% of GMC's monthly overhead and new equipment costs: **\$6,930**

Infrastructure Services

Server: Annual cost: \$12,000

The iSchool Scrabble app will be hosted on (Amazon, Google or Azure) server.

Data storage: Annual cost: \$3,600

Interactions with university system: Annual cost: \$1,000

UofT Student ID Login service. To integrate student's Utorid from ACORN with mobile app

Project total includes these services for the first 6 months: **\$8,300**

Legal Fees:

Includes:

- Licensing and copyrights GMC
- UofT trademark licensing
- Draft legal agreement for intellectual property

- Register trademark, copyright, patent
- Draft terms of use
- Draft privacy policy
- Non-disclosure agreement (during production)

Total legal expenses: **\$5,000**

Project Total: \$46,724.5

Contingency Reserve (to account for identified risks) – 5% of total cost

Management Reserve (to cover unplanned work) – 5% of total cost

Total with Reserves: \$51,396.5 (CAD)

Funding:

The project will be funded by the UofT Faculty of Information. UofT will pay 50% of costs upfront and 50% once the project is complete. Costs incurred over the initial payment by UofT that cannot be covered by GMC's operating funds will be funded through a line of credit (to be paid once the project is completed and the final payment from UofT has been received).

4. Project Milestones & Deliverables

Date	Milestone
June 19, 2020	A summative document of requirements from students and faculty is created and submitted for final approval.

July 26, 2020	A clickable demo of the mobile application is developed.
August 26, 2020	Version 1.0 is released for testing. This version has basic features such as student registration, group creation, loaded dictionaries for each of eight concentrations and museum studies. The application is Android and Apple compatible.
October 01, 2020	Version 1.0 is tested. Bugs are fixed.
November 01, 2020	Version 2.0 is released for testing. This version has additional features as follows. <ul style="list-style-type: none"> - In-app chat enabled - A 'teacher' feature - Short commercial breaks - 'Smart Match' enabled - History feature enabled
December 01, 2020	Version 2.0 is tested. Bugs are fixed.
January 15 2021	The final Version 2.1 is released.

5. Project Assumptions

1. All iSchool students have access to a mobile device and internet connectivity.

2. The lockdown is lifted and stores and businesses reopen by June 2nd 2020.
3. All phones used in accessing the mobile game app run on Apple or Android software.
4. All data privacy issues and technology guidelines governing mobile and/or academic applications that apply to the UofT or other entities other than GMC are met.
5. There is a continual strong synergy between stakeholders.
6. The vocabulary dictionary will contain only existing words from different concentrations of the Faculty of Information.
7. The budget that is needed for each phase is readily available two days before the start of that phase.
8. The iSchool appointed team will finish the creation of the dictionary by June 19.
9. The Apple and Google Play stores are available to both GMC and iSchool users.
10. GMC's office is located in Toronto and all stakeholders are based locally.

6. Constraints

Scope: although a viable option for future updates, the solution will not be opened to alumna of the Faculty of Information who do not have a valid UTORid.

Resources:

- As GMC is relatively small with no formal organization structure there may be a lack of human resources on their side. Availability of needed iSchool resources may be scarce as well.

- A dependency on potential advertisers that are expected to present their advertisements on the iSchool Scrabble.

Schedule: The 2019 SARS-CoV-2 pandemic might affect the deliverables, timeline, and deadlines as governmental lockdown measures may be extended for an indeterminate time.

Budget: with the pandemic bringing about a downturn in businesses and the economy at large, the available budget might be significantly below the required budget.

Technical/technological:

- The Faculty cannot completely cover the entire vocabulary available to all the concentrations in iSchool. This means, some words may be correct but refused by the Game application. Regular updates are expected to help manage this issue.
- The dependence of the iSchool Scrabble on the Acorn System stands as a major constraint as the game cannot be accessed without appropriate validation from the Acorn system.
- The iSchool Scrabble is limited to only android and IOS users. Students using other mobile software such as Windows phones will not have access to the game.

7. Project Dependencies

The following dependencies are organized by the attributes: mandatory, discretionary, internal and external⁴.

⁴ Project Management Inst. 2017

Discretionary Dependencies:

Internal

- Feedback from version 1.0 testing must be received before the app is revised.

External

- The team defines the app objectives and coordinates with the student and faculty stakeholders from iSchool before design work begins.
- The summative document of requirements from students and faculty must be approved before the team begins work on creating a layout of functionality and features.
- The testing activity of 1.0 iSchool Scrabble is dependent on the connection to UofT's login services.
- The Faculty-created dictionary must be resolved and submitted to the team before 1.0 testing
- The general mobile Scrabble game including all codes, protocols and documentation is required in order to start this project.

Mandatory Dependencies:

Internal:

- The iSchool Scrabble game prototype must be assembled by the team before version 1.0 testing can occur.
- Feedback from version 2.0 testing must be resolved before the final 2.1 version is released

External:

- Terms of Use / Privacy Policy must be finalized before iSchool Scrabble is launched for public use
- Acorn must be connected to the iSchool Scrabble before it is launched for public use.

8. Project Risks

Risk Type	Risk Event	Prevent Strategy
Budget	The project may over budget due to increasing labor cost and time cost (such as employee absenteeism) or additional equipment cost (such as equipment breakdown or shortage).	Continuously forecast and separate the project into tasks with a work breakdown structure; a contingency reserve and management reserve are included in the budget.
Budget	GMC may cut down the budget due to the lower profit or strategy change during COVID-19.	Make a plan B with unnecessary expenses cutdown; identify core and optional features; Notify stakeholders about overall project status and change requests.
Time	Unknown time requirements for product (APP) testing.	Extensive research about APP testing.
Time	The delivery of APP design may be delayed due to a delay in user	Constantly track and measure the design progress; Respond to design feedback

	acceptance testing or feedback received, which may require more significant changes or debugging.	immediately.
Time	Faculty stakeholders from the iSchool may not fulfill their roles according to timelines.	Constantly track iSchool team progress. Require updates from the iSchool team lead.
Technology	User information leakage.	Use encryption keys. Follow information security best practices.
Technology	Technology support requirements may rise due to the Android/ IOS software update.	Hire a professional technical team.
Resource	Access to resources committed to the project is impaired, whether because of COVID or otherwise, may cause higher budget and longer delivery date .	Keep monitoring resource availability, outsource labor if needed.
Implementation Risk	Deployment involves using a designated external information system.	Review similar projects; hire employees who have similar project experience.

9. Approval Signatures

- The project manager
- Supervisor in the New Production Innovation team
- Supervisor in the Information Systems and Design team
- Supervisor of the Operations team
- Senior management or someone on their behalf
- Financial Sponsor - Chief of iSchool Administrative Office and/or management.

10. Read & Understood

- The Project Manager of the general mobile Scrabble application
- Technical Lead
- User Researcher
- UI Designer
- Android/ IOS Developer.

Reference List

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