

Letter of Transmittal

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February 5, 2023

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Dear Mr. David Lindsay,

We are proposing a feasibility report on using mobile application for obtaining services to new immigrants. As computer programming students, we want to use our learned programming knowledge in practical applications. As new immigrants to Canada, we are facing many new challenges in Canada, and one of frustrations is how to find the services on the new land. Now days, mobile phones are widely used for people to obtain information. All of these inspire us to propose an application on mobile phone for finding services to new immigrants.

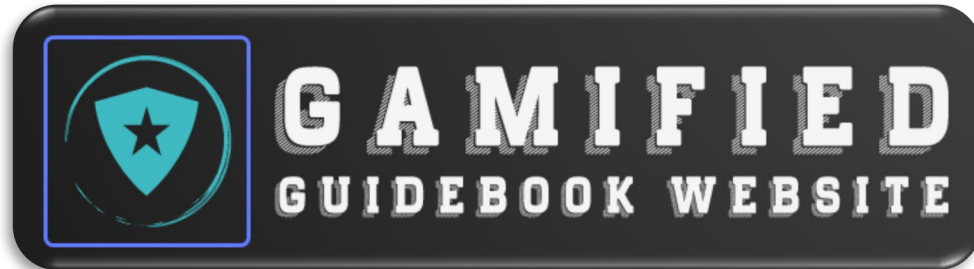
In this report, first we will explore the conventional ways to obtain services and resources for new immigrants to Canada, then we will propose an application solution on mobile phone by using the technologies we have learned in computer programming, including the client with web programming on mobile phone, the application with java programming on the application server, and the data storage on the database server. We will compare the mobile application with conventional services available to new immigrants. We predict that the mobile application will be easier and quicker for new immigrants to obtain services and resources.

We believe this topic is appropriate for our final research report because the mobile application is related to our studies in Computer Programming. Through the process of researching and writing the report for the mobile application, we will gain the experience how to use the computer technologies in the actual applications, which is very valuable to our future career. We would like to ask your permission to complete this feasibility report on using mobile application for new immigrants to obtain services, and to let us know if you have any suggestions and concerns on this topic.

Sincerely,

Fei Lan, Xi Xia, Qiaoqing Wu, Wanqing Tong and Kaithlin Louise Manalo

Gamified Guidebook Website



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Submitted April 10, 2023

Declaration of Sole Authorship

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Dear Mr. David Lindsay,

We, Fei Lan, Xi Xia, Qiaoqing Wu, Wanqing Tong and Kaithlin Louise Manalo, confirm that this work submitted for assessment is our own and is expressed in our own words. Any uses made within it of the works of any other author, in any form (ideas, equations, figures, texts, tables, programs), are properly acknowledged at the point of use. A list of the references is included.

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Abstract

This feasibility report explores the concept of gamification and its potential benefits for guiding new immigrants through the process of obtaining essential services in Canada. The project's objective is to address the challenges faced by immigrants in adapting to a new country and its culture, which includes language acquisition, job hunting, accessing social services, and understanding cultural norms. Our proposed website combines gamification and interactive features to provide an engaging and entertaining platform that guides new immigrants throughout the process. Gamification uses game-design elements and principles in non-game contexts to motivate users. The incorporation of gamification elements and interactive features makes learning more enjoyable and memorable, which enhances the overall user experience. The website will provide helpful information and resources in a clear and accessible format, with visual aids to assist understanding. Our project plan will help us stay on track and reduce risks, ensuring that the website meets the needs of its target audience.

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Glossary

Ad space: The area of a website that can be used to display advertisements.

Avatar: A virtual representation of a user on a website or in a game.

Domain name: The unique address that users enter to access a website.

Freemium model: A business model where a website offers a basic version of the product for free, but charges for premium features.

Gamification: the use of game-design elements and game principles in non-game contexts to enhance user motivation and engagement.

In-app purchases: The virtual items or features that users can purchase within an application or website.

Revenue streams: Different methods through which a website can generate income, such as advertisements, sponsorships, in-app purchases, and subscriptions.

Secure Sockets Layer (SSL) certificate: A certificate that ensures secure communication between a website and its users by encrypting data transmitted over the internet.

Sponsorships: a form of advertising where a business or organization provides financial support to a website or application in exchange for promotion.

Subscription model: A business model where users can access premium features and more customization services by subscribing.

User Experience (UX): the overall experience a user has when interacting with a website, including ease of use, accessibility, and satisfaction.

Web design: The process of creating the layout, user interface, and visual elements of a website.

Web hosting: The service provided by a hosting provider that allows website owners to store their website files on their servers and make their website accessible on the internet.

Chapter 1.0 Introduction

The aim of this project is to design and develop a gamified guidebook website that focuses on functionality, reliability, and usability. This platform will offer users a centralized hub for accurate information, appointment scheduling, and processing reminders. The ultimate objective is to minimize the time and effort needed to accomplish critical tasks, thus addressing barriers that impede immigrants from fully integrating into Canadian society. By simplifying the process, the website will facilitate a smoother transition for new immigrants as they settle into their lives in Canada.

A considerable number of immigrants arriving in Canada grapple with adapting to a new country and its distinct culture. Statistics Canada reveals that newcomers face multiple challenges, including language acquisition, job hunting, accessing social services, and understanding cultural norms [1]. To prepare for life in Canada, individuals typically consult the Immigration, Refugees, and Citizenship Canada (IRCC) website for information. However, this requires sifting through vast amounts of text, which can be tedious, time-consuming, and overwhelming for those unfamiliar with the system.

Although search engines offer an alternative for gathering guidance, the reliability and currency of the information can be questionable. Moreover, search results may include varying opinions and recommendations, leading to confusion and delays. This problem is compounded for users who are not proficient in English or French, as they may struggle to comprehend the information available. For those inexperienced with internet navigation or facing language barriers, consulting immigration agencies might be the preferred option. Nevertheless, this approach can be expensive and carries the risk of potential errors. These factors underscore the pressing need for a dependable, user-friendly information source for new immigrants in Canada.

To ensure the success of this gamified website, it must:

- Offer a user-friendly interface and navigation, utilizing a UX approach that deeply understands users and addresses their needs elegantly [2]
- Incorporate a blend of gamification elements and interactive features
- Guarantee mobile compatibility across a range of devices, encompassing both iOS and Android operating systems
- Implement secure and private user data handling measures

- Integrate an email notification system to deliver timely updates and reminders about vital information, appointments, and deadlines pertaining to the user's immigration process
- Provide multilingual support for diverse users, including English, Chinese, and Filipino languages at present
- Incorporate an effective internal search engine for quick information retrieval
- Source accurate and up-to-date information from the IRCC official website and other relevant official websites
- Supply genuine and functional appointment links from official websites
- Include accessibility features for users with disabilities
- Perform upgrades and maintenance on the website twice a month

Chapter 1 of this report consists of the introduction, design criteria, and scope of this project. Chapter 2 introduces the theory and benefits of gamification. Chapter 3 consists of a brief introduction about the website, example of character building and quest. Chapters 4 and 5 includes the implementation and financial implications. The last chapter consists of the conclusion.

The proposed gamified website presents a more effective and user-centric solution by offering step-by-step guidance for completing crucial tasks. By optimizing these processes, users will experience significant reductions in time, effort, and expenses compared to existing methods. This website has the potential to enhance the experience of new immigrants by making the process of settling into a new country more manageable, alleviating stress, and diminishing uncertainties associated with the transition. Furthermore, gamification elements will be incorporated throughout the web pages to make the user experience more engaging and enjoyable.

The scope of this project encompasses research, data collection, milestone scheduling, UI/UX design, gamification elements design, process emulation, coding, version testing, and web page delivery. It will evaluate market demand and potential, technical feasibility, cost and revenue estimates, and operational requirements. This report aims to provide valuable insights for stakeholders and decision-makers interested in exploring the potential of the proposed guidance website for new immigrants to Canada.

Chapter 2.0 The Concept

2.1 Theory Behind Design

Gamification is the strategic attempt to enhance systems, services, organizations, and activities by creating similar experiences to those experienced when playing games in order to motivate and engage users [3]. This is generally accomplished through the application of game-design elements and game principles (dynamics and mechanics) in non-game contexts [4] [5].

2.2 Benefits Compared to Current Method

One of the key advantages of gamification is that it can make complex tasks more manageable and enjoyable. New immigrants often face a steep learning curve when it comes to navigating the complex systems and processes involved in obtaining essential services in Canada. The traditional approach to providing guidance on government websites is to provide wordy instructions and explanations, which can be overwhelming and difficult to follow for someone who is new to the system and may not be fluent in English or French.

Gamification provides a more engaging and interactive alternative to traditional instruction methods. By breaking down complex tasks into smaller, more manageable components, and presenting them in the form of an interactive game, gamification can help to reduce the perceived difficulty of the tasks and increase user engagement.

The use of customized characters and badges for completing tasks can also provide a sense of achievement and recognition, which can be a powerful motivator for users.

Another advantage of gamification is that it can make learning more entertaining and memorable. When users are engaged in a game-like immersive experience, they are more likely to pay attention, retain information, and feel a sense of accomplishment when they complete tasks. The open-world quest modes can also encourage users to explore all the available services that are waiting for them. This can help to build user confidence and satisfaction, which can in turn lead to a more positive experience overall.

Chapter 3.0 Product

3.1 Introduction About the Website

The website will use a combination of gamification and interactive features to guide new immigrants through the process of obtaining essential services in Canada. One of the key components of the website will be the use of customized characters to represent the user.

3.2 Example of Character Building

Upon arriving on the website, users will be introduced to build their pixelated avatar, which will represent themselves to take on various quests. The avatar will be customizable, allowing users to choose their skin color, hair style, and other physical attributes. This would bring an immersive gaming experience to users.



Figure 3.2 – Character Building UI from Animal Crossing, Nintendo

3.3 Example of a Quest

The whole gaming process begins with new player guidance which leads users through a relatively easy quest, such as getting a SIN number and a Health Card. The guidance will be provided in the form of an interactive game, which will challenge users to complete various tasks in order to progress. For example, users may need to answer questions about eligibility criteria, required documents, and application processes.

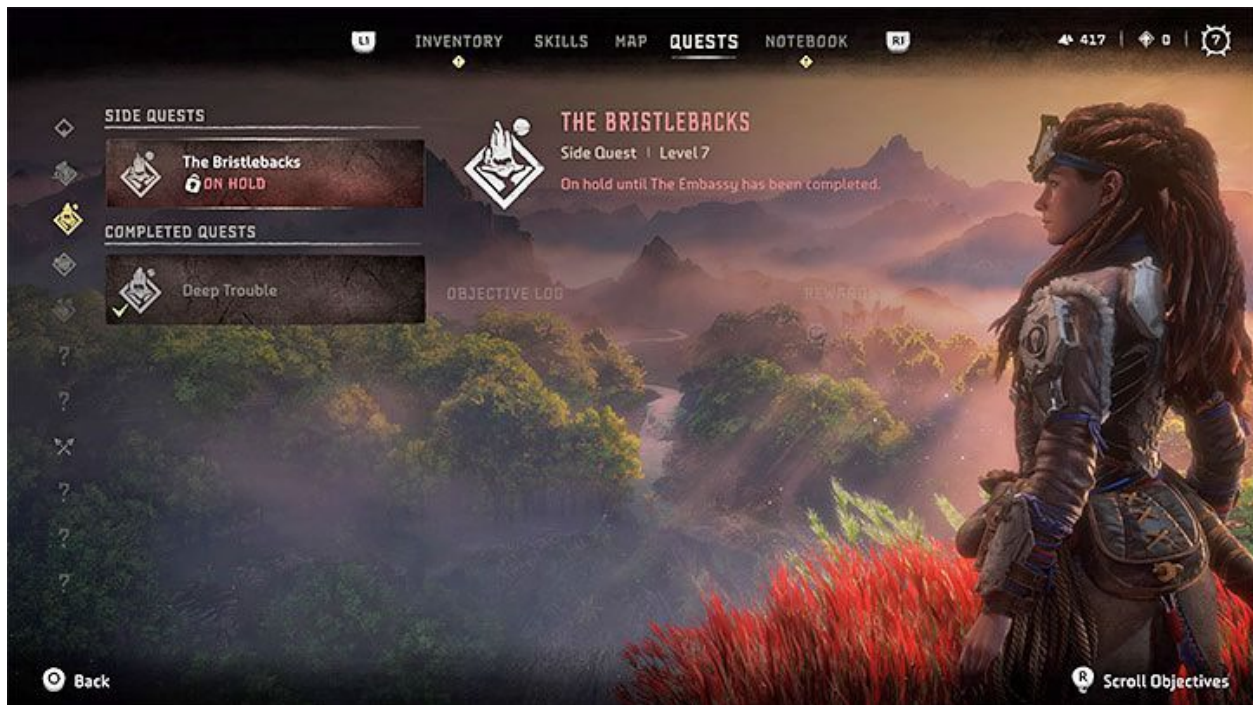


Figure 3.3.1 - Mission guide page from Horizon: Zero Dawn, Sony

Once a user has successfully completed all the tasks, they will be awarded a badge for their accomplishment. The badge will be displayed on the user's profile page and can be used to show others the services they have obtained. This will provide a sense of achievement and fulfillment for the users, making the process of settling in Canada more enjoyable and rewarding.

The website will also include information about the different types of services available to new immigrants, such as get a language assessment and sign up children for school, along with details about the eligibility criteria, required documents, and application processes. This information will be displayed in an easy-to-understand format, using clear language and visual aids to help users understand the process.



Figure 3.3.2 - Open-world map showing available missions from Cyberpunk 2077, CDProject

In addition, the website will feature a database of frequently asked questions and answers, covering a range of topics related to settling in Canada. This will provide users with quick access to information they need to successfully navigate in this new environment.

Overall, the website will be designed to be user-friendly and accessible, with a focus on making the experience of settling in Canada as smooth as possible for new immigrants.

Chapter 4.0 Implementation

To ensure that our project is successfully implemented, we need to create a project plan and follow all the steps. This will help us stay on track and reduce risks. Our project plan should include the following steps:

1. Define the website goals and objectives: The first step in the project plan is to define the goals and objectives of the website. This will guide the design and development process and ensure that the website meets the needs of its target audience. Some key goals might include simplifying the process of accessing essential services, improving user engagement, and providing helpful information and resources for new immigrants.
2. Choose a theme and customize it: Once the website goals and objectives have been established, the next step is to choose a theme and customize it to reflect

the brand identity. The theme should be visually appealing, easy to navigate, and optimized for mobile devices.

3. Develop website content: The website content will be created to engage and inform the target audience. The content will be written in a clear and concise manner, with a focus on providing helpful information and resources that will guide new immigrants through the process of obtaining essential services.
4. Optimize for search engines: The website will be optimized for search engines using relevant keywords, meta descriptions, and other SEO techniques. This will help to ensure that the website is easily found by users who are searching for information about essential services for new immigrants.
5. Implement gamification and interactive features: Gamification and interactive features will be implemented to guide users through the process of obtaining essential services. These features will include quests, scenarios, and challenges that help to simplify the process of accessing key services.
6. Test and launch the website: The website will be thoroughly tested to ensure that it is functional and user-friendly. Once testing is complete, the website will be launched and made available to the target audience.
7. Ongoing maintenance and updates: The website will require ongoing maintenance and updates to keep it up-to-date and relevant. This will include regular updates to the content, as well as updates to the gamification and interactive features [6].

Chapter 5.0 Financial Implications

5.1 Cost

According to our research, the cost of building a website for a small business can range from \$2,000 to \$10,000, depending on various factors such as design complexity, features, and functionality [7]. However, since our website will use a combination of gamification and interactive features that require more complex design and features, we estimate that the cost would be closer to the upper end of the range, around \$8,000 to \$10,000. This includes expenses for web design and other essential components. The costs are broken down into the following categories:

Cost Component	Estimated Cost Range
Design & functionality	\$5,000 - \$8,000
Web hosting	\$120 - \$300 per year
Domain name	\$20 per year

SSL certificate	\$30 - \$80 per year
Maintenance and update	\$1,000 - \$1,500 per year

Table 5.2 - Website Building Blocks and their Cost

To be more specific, the website design will account for the largest portion of costs, as we are building a gamification website that requires complex design and various functionalities. We may need to hire a professional web designer and even create images and videos. Hosting refers to the process of storing and making a website accessible on the internet. When we create our website, it consists of various files (such as HTML, CSS, images, and videos) that need to be stored on a web server. However, building our own web server would be too expensive. Web hosting is the service provided by a hosting provider that allows us to store these files on their servers and makes our website accessible to users on the internet. We may consider shared hosting as it would be cost-effective. Another important component of building a website is the domain name, which is the unique address that users enter to access our website. According to Will, "Choosing the right domain name is vital because it will become an important part of your business's identity" [8]. In terms of website security, a Secure Sockets Layer (SSL) certificate will be necessary as it protects our website and users' data. It helps secure the communication between users and our website by encrypting data transmitted over the internet.

Once the website is launched, it will require ongoing maintenance and updates to ensure that it continues to function smoothly and remain secure. The cost of maintenance will depend on the complexity of the platform and the frequency of updates. GoDaddy recommends budgeting 5-15% of the initial development cost for ongoing maintenance [8].

5.2 Budget

To fund the development and launch of the website, we plan to allocate a budget of \$12,000. This includes the estimated cost of the website and an additional \$2,000 for unforeseen expenses. To ensure that we stay within our budget, we will need to carefully plan and prioritize the features we want to include in the website. We can start by creating a detailed list of the essential features we want to include, along with their estimated costs. This will allow us to allocate our resources and make informed decisions about which features to include and which ones to postpone for future development.

5.3 Revenue

To generate revenue, we plan to monetize our website through various method such as advertisements, sponsorships, in-app purchases, and a freemium model.

One approach to generate revenue is by selling ad space to relevant advertisers who are interested in reaching the new immigrant population. We will actively seek sponsorships from businesses or organizations that provide services and products to new immigrants, such as language schools or rental agencies. These sponsors can support quests and events on our platform, providing an additional source of income.

Another potential revenue stream is by offering virtual items such as avatar skins, costumes, and props for purchase. Users can recharge their accounts by purchasing virtual currency, such as gold or gems, which can be used to customize their avatars or unlock additional content on our website. An example of this model can be seen in Figure 5.3 - Habitica, a game-based habit-building platform that generates revenue through in-app purchases.

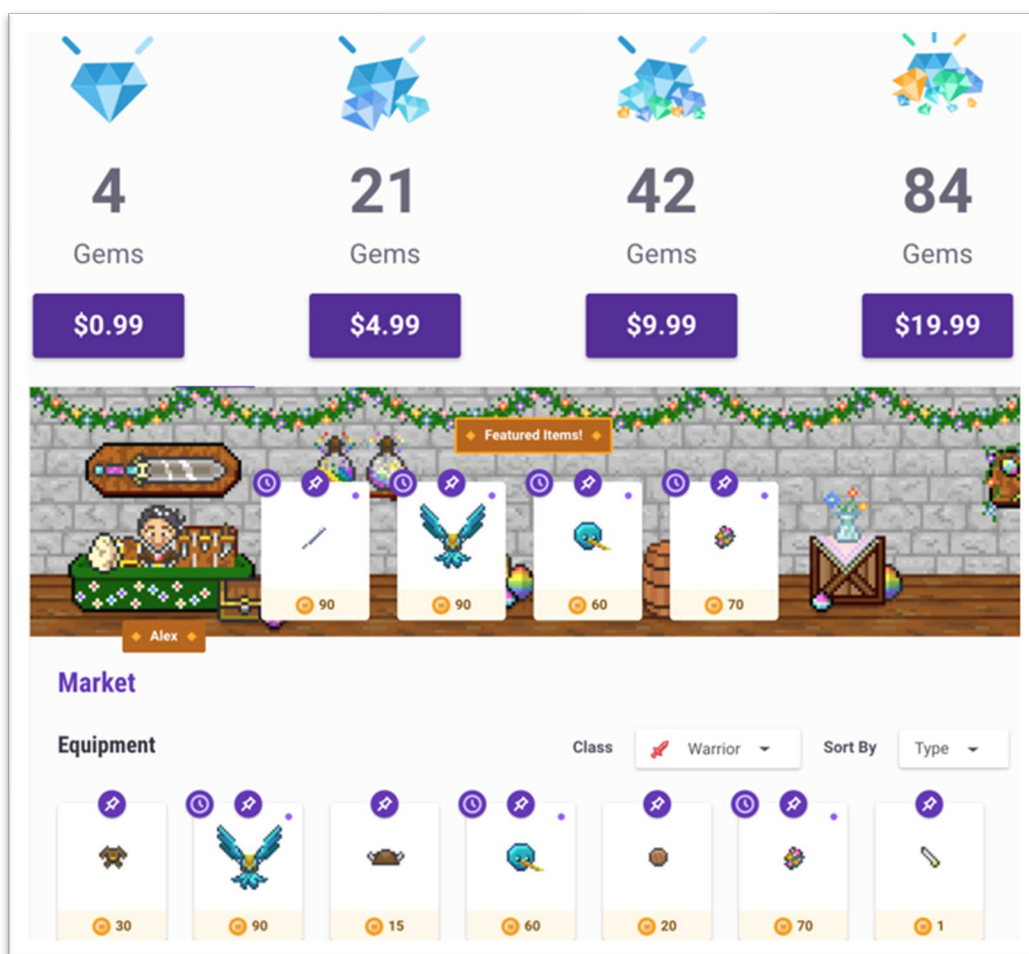


Figure 5.3 – Habitica

Additionally, we can consider implementing a subscription model similar to Habitica, where users can access premium features and more customization services by subscribing. While our website will be free to use, users can choose to subscribe and unlock exclusive quests, scenarios, and other premium content based on their needs. This subscription-based model can

provide a recurring source of revenue and incentivize users to upgrade their accounts for a premium experience.

By diversifying our revenue streams through advertisements, sponsorships, in-app purchases, and a subscription model, we can maximize our potential for generating revenue and sustain the financial viability of our website. We will carefully analyze and adapt our monetization strategies based on user feedback, market trends, and the evolving needs of our target audience.

Chapter 6.0 Conclusion

In conclusion, the proposed gamified website offers a better solution for new immigrants in Canada compared to the Immigration, Refugees, and Citizenship Canada (IRCC) website. Unlike traditional government websites, which often provide lengthy and complicated instructions that can be confusing and difficult to follow, our website employs an innovative approach of gamification to motivate and engage users by creating experiences similar to those of playing games. With customized characters, badges, and quests, our website seeks to make the tasks feel less daunting and more interactive. Additionally, the open-world quest mode encourages users to explore all available services, resulting in a more positive overall user experience. Compared to the potentially experience of diving into the internet rabbit hole of information, our website offers a more accessible, secure, and provide multilingual support for diverse users, ensuring a smooth transition for new immigrants in Canada.

Overall, the proposed gamified guidebook website has significant potential to assist new immigrants in navigating the complex systems and processes involved in settling into Canada. We recommend that stakeholders and decision-makers explore the feasibility of this innovative approach to facilitate the integration of new immigrants into Canadian society.

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