

COMPASS

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Project Description

The project involves creating a web application called Compass that retrieves and displays relevant health data for the patient from their healthcare practitioner and/or the medical institutions they were treated from. Following the Canadian Personal Information Protection and Electronic Documents Act (PIPEDA), the application allows the patient to view scan/blood laboratory test results, previous and future medical appointments, a list of vaccinations completed and medications they take by pulling data from an HL7 FHIR-compliant database. The simplified high-level information that is displayed allows the patient to better navigate through the medical jargon, and to better take care of their health. This also avoids high wait times to view their test results.

The application allows tracking of one's personal medical records such as allergies, family history, prescriptions, vaccinations and past medical procedures, such as surgeries. The application also allows for additional health data pertinent to the patient to be tracked. These include notes on the doses of medication taken (i.e. insulin) or physical activities that are required to be done at certain times. Additionally, Compass allows one's medical records to be authorized to another representative, in the event that one is unable to present their records (i.e. incapacitated patients). It becomes a consolidated application that facilitates the access of the patient's data and helps them be assured of their health.

Compass is also equipped with a Symptom Checker AI chatbot that allows one to enter symptoms manually and receive a recommendation on whether one should consult emergency services, an urgent care clinic, or a walk-in clinic. The application allows the user to make requests to receive physical and/or translation services to better facilitate their access to medical care in cases where the patient has mobility issues or requires comprehension in another language. Lastly, Compass notifies and reminds the patient of activities that improve their physical and mental well-being, all these one click away.

Risk

- **Privacy and Security:** Proper measures will be taken before implementing any feature in order to comply with Canadian privacy and data laws. The medical advice of the Stakeholder who practiced as a Canadian family physician would be used to ensure nothing in the application violates any legislation.
- **Overscoping the project:** Adding features beyond the agreed scope can create delays for the project release. Having a clear project vision, quality control measures, change management and a regular reviews process, this risk can be mitigated.
- **Inexperienced developers:** Having team members with different skill sets that are unfamiliar with some or all of the development tools used in the project might create some delays. By following strategies such as pair programming, code reviews, continuous support and collaboration, this risk can be mitigated.

Competition

Search terms: Health App, Health record app, health tracking, health results, health scan results, medical app, medical results app, personal health record, and health booklet.

Number of pages examined: 55 pages examined 36 links

Competitor 1 Health Booklet (Carnet Santé)

Services that the Quebec Health Booklet offers include: access to medical appointment management, prescription renewals, vaccination records, national health alerts, secure communication with healthcare providers, healthcare facility locator, access to health resources, and consent management.

Compass and the Quebec Health Booklet are very similar in vision. It aims to empower the patient to take better care of their health. But, where that diverges is the fact that Compass provides more services that allow one to do so independently. Compass allows users to track their own personal health data through health journals (i.e. insulin taken per day), to better document their health activities. This also allows health practitioners to better follow a patient's progress to either continue or change their treatment. Compass also allows users to be reminded of important health activities, such as taking one's medications, performing necessary exercises, or simply to relax.

In comparison to Quebec Health Booklet, Compass has a Symptom Checker AI chatbot, translation and physical assistance requests, and personalized push notifications.

Competitor 2 TELUS Health MyCare

TELUS Health MyCare is a virtual healthcare platform that offers services such as virtual consultations and mental health support. It allows users to send prescriptions from medical professionals to pharmacies. It also allows users to track certain health data, fitness information from wearable devices, and be reminded of important information.

Comparing Compass with TELUS Health MyCare, one main advantage is the application being completely free of charge. TELUS Health MyCare charges a minimum of 120\$ per consultation that might be covered only if the user has advanced health insurance. This, however, is a large barrier to many who may find the fee steep. On the other hand, Compass has the ability to track one's health data, such as insulin intake, through health journals. Moreover, Compass has a Symptom Checker AI chatbot, translation and physical assistance requests, and allows for authorization of health representatives.

Competitor 3 Apple Health

Apple Health offers services such as health data collection and health records integration. The app also offers insights on health metrics over time, helping users monitor their progress and make informed decisions about their well-being. With many wearable devices, it can track various types of physical data and activities. The app can analyze sleep patterns, menstrual cycles and fertility with biometric data. It can also analyze nutrition, food intake, and water consumption if entered manually.

Compass and Apple Health have numerous similarities, but where that diverges is in the integration of wearable devices. Compass does not have wearable device integration; however, it has access to public health data, via the Quebec Health Record, to allow display of such data to the user. Furthermore, Apple Health is integrated with numerous third-party apps which may offer premium services, all of which are avoided with Compass. Privacy is also an issue when utilizing Apple Health as the public perception of Big Tech is one that uses personal data for their own benefit, creating a negative perception of the app. Lastly, Compass has the advantage of a Symptom Checker AI chatbot, translation and physical assistance requests, and allows for authorization of health representatives.

Description of Customer and Company

The customer works at IBM Canada (<https://www.ibm.com/ca-en>). IBM Canada is a global technology company that provides IT services such as consulting, cloud computing, and AI solutions.

IBM's healthcare section in Canada offers healthcare data management, securely handling and analyzing vast volumes of medical information, including electronic health records and medical imaging. They also offer patient care by providing tools for improved patient communication and personalized health interventions.

IBM's population health management solutions aid healthcare providers in identifying at-risk patients, predicting disease trends, and improving care delivery for specific populations. IBM also focuses on security and offers healthcare cybersecurity solutions to protect the sensitive patient information and prevent data breaches or troubles that might be caused. Their huge advancement in artificial intelligence supports medical research, diagnostics, and treatment recommendations.

Our customer is Dr. Randy Giffen. His LinkedIn profile can be found at: <https://www.linkedin.com/in/randy-giffen-48b9b61a/>. His CV is attached.

Dr. Giffen is a healthcare analytics architect with over 10 years of experience in building healthcare applications. Prior to that, he was a medical practitioner with a specialization in Obstetrics and Gynecology. He holds a medical license, a Master's degree in computer science, and numerous publications on the development of healthcare applications. We found that Dr. Giffen is the perfect stakeholder given how niche Compass is. Healthcare application development, in particular electronic medical records, is not as mainstream as other applications, such as games or mobile applications. It is highly interdisciplinary and requires a very specific skill set to provide insight into how such an application can be built correctly, from the ground up. With Dr. Giffen's experience, we feel that he can provide us with the necessary advice on how to best proceed with our application.

Moreover, Dr. Giffen finds the application highly promising as such an app has yet to penetrate the mainstream market. He finds the application to be a great tool, if built correctly, for empowering patients to take better care of their health. Utilizing technology to facilitate access to patient data has been one of his primary goals and making it highly accessible to patients has always been a difficult task.