

## **Introduction**

Recently mHealth tools have been more and more used to improve health care or medical services. In this project, we are employing mHealth informatics to provide a better care of children's health in Montreal. Therefore, we are developing a software architecture for a mobile application iCare that improves services of Montreal Children's Hospital for both patients and professionals.

iCare aims to provide effective and more accessible services related to Parents and nurses, as they are the immediate users of the App. Improving the quality of these services for those users will certainly better meet children health needs, as it's our ultimate goal.

Through our iCare App, parents can remotely access the booking appointment system of Montreal Children's Hospital and nursing assistance and feedback. The App will make parents more involved in the hospital's contributions toward children healthcare awareness. Nurses can efficiently manage home visits to take care of newborns and new moms. iCare also exploits mHealth resources such as Electronic Health Record for more effective and efficient care.

*"Congrats! You are a new mommy in Montreal and your baby was born in our hospital, Probably You have so many questions about your baby, you want to know when are his vaccine schedules, you are seeking information about the right ways of breastfeeding or just simply want to make a doctor appointment. Have you ever thought about using your phone to assist you with your mommy duties? If you own a smartphone, iCare "New Mom" is the application you need. It will also help you to keep in touch with Nurses for Home based follow ups and many other services"*

This is how we will market our new healthcare mobile application "iCare for new Mom", which we are presenting in this document. The main objective of this project is to design, describe and evaluate an efficient, cost effective, state of the art and platform independent healthcare mobile application. iCare aims to provide a mobile operated system to allow remote patients (new parents) the access to immediate medical advice, digital record keeping, appointments booking and data sharing.

## **Our Vision**

Our vision is to become **one of** the most used healthcare mobile application in Montreal at connecting parents to healthcare services, We are striving to become Canada's leader in providing mobile healthcare services focusing on enjoyable and reliable patient experience.

## **Business Goals**

Every large system contains multiple objectives. Decomposing the whole software architecture problem into smaller pieces is an appropriate way to be able to describe, analyze and evaluate them in detail

Aspect of concern	Goal	Questions
Appointment system	<b>Enhance customer experience and satisfaction with the efficiency of booking doctors appointments in Montreal Children's Hospital.</b>	<ol style="list-style-type: none"><li>1. What are the complaints against current hospital appointment booking system for doctors and nurses?</li><li>2. Is behavior of hospital staff an issue while booking or cancelling a doctor's appointment or a nurse's home visit ?</li><li>3. How flexible is the time window for cancelling a doctor's appointment or a nurse's home visit?</li></ol>
	<b>Increase efficiency for nurses to check home visits appointments and cancellation</b>	<ol style="list-style-type: none"><li>1. How current allocation system for nurses home visit works?</li><li>2. How much time hospital needs to notify a nurse in case of any change in a home visit appointment?</li><li>3. How the nurses notify the hospital in case they want to change a house visit appointment?</li></ol>
	<b>Make it easier for parents to view available appointments and to book appointments that suit them better.</b>	<ol style="list-style-type: none"><li>1. How difficult it is to book an appointment for parents who live far from Montreal children's hospital?</li><li>2. Is it easy for parents to explore available appointments?</li><li>3. Is the appointment system accessible for 24/7?</li></ol>

	<b>More efficient appointments confirmations and notifications</b>	<ol style="list-style-type: none"> <li>1. What's the current way of confirming appointments with patients?</li> <li>2. What's the current way of reminding \notifying appointments with patients?</li> </ol>
<b>Information and knowledge support</b>	<b>Contribute to raise children Children healthcare awareness.</b>	<ol style="list-style-type: none"> <li>1. How does the Montreal Children's Hospital raise children healthcare awareness?</li> <li>2. How to make hospital's current contributions in raising children healthcare awareness more available and accessible for each parent?</li> <li>3. How does the hospital currently inform parents about event and workshops ?</li> <li>4. How to improve raising children healthcare awareness through our App?</li> </ol>
	<b>Easy access to suggestions from professionals for new parents</b>	<ol style="list-style-type: none"> <li>1. Is there any trusted resource available for new parents to help them to deal with their general doubts and concerns?</li> <li>2. How much parents can access professionals and get needed information?</li> <li>3. What kinds of mishaps new parents report to the hospital caused by questions and concerns?</li> </ol>
<b>Effective use of existing tools and resources</b>	<b>Make efficient use of resources and tools such as EHR</b>	<ol style="list-style-type: none"> <li>1. How often do nurses need to update the EHR after home visit?</li> <li>2. How often they need to view EHR while visiting patient's home?</li> </ol>
<b>Patients</b>	<b>Reduce time and cost for patients</b>	<ol style="list-style-type: none"> <li>1. What is the average waiting time to access the appointment service from hospital?</li> </ol>

<b>costs</b>		2. What is the cost associated with appointment booking and cancelling for hospital nurses?
<b>Natural environment concern</b>	<b>Reduce the use of paper (Go green)</b>	1. How much paper is being used currently for appointment services?  2. How does hospital preserve the paper files?

## Previous Draft

<https://www.upwork.com/hiring/for-clients/current-state-main-objectives-medical-mobile-development/>

Our vision is to provide the best App that makes children healthcare more accessible by employing free usable mhealth application for every parent registered in Montreal children's hospital.

Our vision is to provide highly available App to make children healthcare more accessible by employing free usable mhealth application for every parent registered in Montreal children's hospital.

Our vision is to become the most used healthcare mobile application in Montreal at connecting parents to healthcare services, We are striving to become Canada's leader in providing mobile healthcare services focusing on enjoyable and reliable patient experience.

## Business Goals

### Goal questions:

**Goal** :Enhance customer experience and satisfaction

### Questions:

1. What are the complaints against current hospital appointment booking system for doctors and nurses?
2. Is behavior of hospital staffs an issue while booking or cancelling a doctor's appointment or a nurse's home visit ?

3. How flexible is the time window for cancelling a doctor's appointment or a nurse's home visit?

**Goal :**Increase efficiency in allocating nurses for home visit of new mothers

**Questions:**

1. How current allocation system for nurses home visit works?
2. How much time hospital needs to notify a nurse in case of any change in appointment?
3. How the nurses notify the hospital in case they want to change a house visiting appointment?

**Goal :**Streamline the appointment making process

**Questions:**

1. How difficult it is to book an appointment for parents who lives far from Montreal children's hospital?
2. Is the appointment system accessible for 24\*7?

**Goal :**Increase awareness about after birth related problems

**Questions:**

1. What percentage of current patients are aware of postpartum depression?
2. How many patients take advantage of the service provided by the hospital?
3. How hospital notify them about the service now?

**Goal :**Offer useful non clinical services for new parents

**Questions:**

1. How do hospital offer workshops for new parents?
2. How many parents take advantages of these services?
3. Request from parents for any new services?

**Goal :**Easy access to suggestions from professionals for new parents

**Questions:**

1. Is there any trusted resource available for new parents to help them to deal with their general doubts and concerns?
2. Do new mothers have access to professional suggestions 24\*7?
3. What kinds of mishaps new parents report to the hospital caused by questions and concerns?

**Goal :**Make efficient use of resources and tools such as EHR

**Questions:**

1. How often do nurses need to update the EHR after home visit?
2. How often they need to view EHR while visiting patient's home?

**Goal :**Reduce time and cost for end users

**Questions:**

1. What is the average waiting time to access the appointment service from hospital?
2. What is the cost associated with appointment booking and cancelling for hospital nurses?

**Goal :**Reduce the use of paper (Go green)

**Questions:**

1. How much paper is being used right now for appointment services?
2. How hospital preserve the paper files?

**Business Goals**

- Increase customer satisfaction by ... % by 20xx
- Increase efficiency in allocating hospital nurses by ..% by 20xx
- Increase the accessibility to the hospital system (appointments of doctors and nurses ) by ..% by 20xx
- Offer useful non clinical services such as parents workshops and counselling.
- Increase awareness about postpartum depression by ...% by 20xx
- Easy access to suggestions from professionals for new parents.
- Make efficient use of resources and tools such as EHR.
- Reduce time and cost (waiting time, commuting cost and time) for end users
- Reduce the use of paper files, forms, nurses' notes (go green).

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Every large system contains multiple objectives. Decomposing the whole software architecture problem into smaller pieces is an appropriate way to be able to describe, analyze and evaluate them in detail. There are many measurement frameworks exist that can assist in defining the business goals. One of the most common and well-known approaches is called Goal/Question/Metric (GQM) paradigm.