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Calcare Portfolio



UNIVERSITY OF
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Group #6

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1 Phase #0: Setting the stage

In Phase 0 we explore the type of environment where a system can be deployed. This involves looking at how the particular environment operates with its users in its current form without any external influence or changes. We seek to quantify the details for them to use later down the road map where we start designing and developing the system.

1.1 Background Environment

Our project is concerned with helping front-line staff in medical clinics, laboratories and similar places to book patients with particular doctors. For this case and line of work, the majority of our users are already using a computer system to deal with most of their operational tasks. However, the existing software system design and usability have significant room for improvement regarding the booking of appointments, particularly with available information, efficiency, completeness of the workflow (detailed steps involved to book a single patient) and additional details that can benefit the entire process.

1.2 What the system will be used for as well as the general expectations that the system should satisfy

The system will primarily be used for booking patients for particular doctors in medical clinics. The general expectations the system should be able to satisfy are considered as follows:

- Allow users to obtain accurate patient details.
- Ask the user for all relevant required information to successfully book a patient.
- Allow the user to book patients strictly according to task descriptions, meaning no invalid step shall be performed by the user that can distract the user and prevent the user to complete the main goal (complete booking).
- Provide users complete control of the information that can be created, updated and deleted as per the user's wish.
- Allow users to keep track of patients who do not show up with a no-show fee that is tagged onto a booked patient's profile.

1.3 System Constraints

There are perhaps many systems constraints of any given system in general, and often several of them can be an obstacle in reaching the desired goal.

- **Budget:** Lack of budget can prevent us from expanding the design of the system to be able to serve all number of tasks as described in this document. For example, lack of computer power, internet speed and the inconsistent power supply may result in unwanted disruptions in the system and result in failed bookings. The scope of the design is adversely affected.
- **Inadequate training:** If the current users lack basic technical skills, for example how to operate a modern computer this can lead to inefficient use of the system regardless of an ideal design. The system relies on a modern computer and is run on a web server and therefore involves the application of basic technical knowledge.
- **Operating System:** Older versions of an operating system lacking the most recent network features may hold back an ideal design of the system. To elaborate the latest network protocols can handle web applications with better security and efficiency leading to fast load times and usability.
- **Security:** The front-line staff or clinic receptionists that are mostly considered to be primary users of the system may not always possess a strong technical background. At times patients' confidential information can be leaked regardless of adequate security measures in the system design. Problems such as this, arising from human behaviour are difficult to deal with from a design standpoint.

2 Phase #1: Identification

Phase 1 provides background and directly approaches the task descriptions where the users are expected to share details of their daily work that may or may not involve any particular system. The objective is to obtain key details concerning the user's tasks, goals and work as accurately as possible that can be translated to the system elements or components as we continue developing it.

2.1 Expected Types of Users

The types of users in our project are very limited. There are also some general assumptions we can make, our users will get by with limited technical knowledge as long as they are adept at using computers/mobile phones. Front-line staff are our users, particularly medical clinic receptionists, nurses, office staff, laboratory staff and so on. They share similar backgrounds most of the time.

2.2 Work Contexts

A typical scenario is as follows for our users: Let us name our user, Michelle. Michelle would start her day as usual in a front desk environment with standard computer equipment, desks, table and ideal lighting. She works at a medical clinic for this example and would wait for people (patients) to come in with their inquiries. She would talk with the patients and if the patient decides to see a doctor at this particular clinic Michelle would start preparing the system to be able to book the patient in. She then navigates to the patient management page and acquires information from the patient and creates a profile on them, after which she is able to book them in. Michelle is required to be sitting at the front desk for all operations and the complete process. It is important for Michelle to obtain the correct details about the patient.

2.3 Concrete Task Examples

To gather the following task examples, our group travelled to two walk-in medical clinics in Calgary to interview the front-desk receptionists directly about their typical workflow with regard to managing patient requests for appointments. Front desk receptionists at clinics represent a typical end-user of our system. The personas "Sarah" and "Emma" represent two of the receptionists who we interviewed. Task descriptions were generated based on the notes and recordings of our verbal interviews.

- Sarah works at the medical clinic and is a receptionist at the front desk working with prospective patients directly. When a patient walks in, Sarah asks for the following information: the patient's phone number, birth date, and full legal name. After obtaining them from the patient she uses all the collected patient details to book an appointment at a future scheduled time in 10–15-minute slots in the calendar as that can be extended depending on each patient's request. Sarah chooses a doctor who is available or assigned to the patient and then books the patient successfully under the doctor. The patient details can be obtained in two minutes for future requests or appointments
- Emma deals with individuals who have not attended their appointments in the past and want to schedule/reschedule an appointment. In this scenario, the patient walks into the clinic. Emma then asks for the patient's phone number to pull up their file. After verifying she has the correct file and that the patient indeed has not shown up in the past, she informs them that they must pay a no-show fee of \$30 before she is able to reschedule them. Once Emma has collected the no-show payment from the patient, Emma is able to reschedule their appointment. She will provide the available times of the available doctors to the patient. The patient has chosen a time, and Emma schedules them with the chosen doctor.
- Sarah is approached by a patient who already has a booking. The patient requests Sarah to reschedule their existing appointment. Sarah takes the patient's information and pulls up their file. Sarah clicks on the existing appointment and clicks on "modify appointment". Sarah proceeds to tell the availability of their doctor to the patient. Sarah re-books the patient with their new selected time and date with their doctor.

- Sarah checks her calendar and notices a patient has not shown up for their appointment. Sarah waits 15 minutes before opening the patient's file to attach a no-show tag to their file. She marks the patient as a no-show, resulting in the file being marked as a no-show.
- Sarah is approached by a patient who would like to update information on their file. Sarah asks for the patient's health care and pulls up their file. The patient proceeds to tell Sarah what information they would like Sarah to update, and Sarah updates that information on their file.

3 Phase #2: Tentative list of requirements

3.1 Calcare Requirements

Must Include	Should Include	May Include	Exclude
Appointment Bookings	Appointment Reminders	Desk Worker ID	Self Bookings
No-Show fees	Health Care Number	Optional Patient Notes	Appointment Room Number
Patient Information	Calendar View		
Previous Medical Records			

3.1.1 Must Include:

- **Appointment Bookings:** As our product is an appointment scheduling app for healthcare professionals, it is absolutely essential that our application includes this feature and that is why it is placed in the must-include category.
- **No-Show Fees:** A fee that is given to patients that don't show up to their appointments and in order to book a future appointment for the patient, any previous outstanding no-show fees must be paid. Since this directly impacts the bookings by either not showing up and paying the fee or paying the fee to book future appointments, it is a must-include feature.
- **Patient Information:** This allows for faster booking times for returning patients and would contain personal emergency information such as a patient's birthday, phone number, address, emergency contacts, etc. Patient information is required at almost any healthcare facility a person can go to and that is why it is a must-include.
- **Previous Medical Records:** In order for doctors to be caught up to speed with new patients or to keep up to date with current patients, they look at previous medical records including blood test reports, x-ray results, previous injuries, etc. Since this information is crucial for doctors to know about their patients, it has been placed in the must-include section.

3.1.2 Should Include:

- **Appointment Reminders:** These would be sent out through either text or email and would be helpful for both the patient and the staff as it would help reduce the number of no-shows. It is not mandatory that the patient be reminded but since it would be beneficial for both the patient and the staff, we have placed it in the should include section.
- **Health Care Number:** Used to get patient information and for payments. However, in emergency situations, a patient can be taken in without a health care card and can provide it later if they want their provincial health care insurance plan to cover the charges. Seeing as how it is required for the most part but can be overlooked if needed, it is placed in the should include category.
- This is a viewing feature used to help sort, manage, and adjust patient appointment bookings. It is not necessary for this to be implemented as there are other design implementations that can accomplish the same task, but a calendar view is the most efficient and simple. Given that it is not the only option, but is still a very good option, it belongs in the should include category.

3.1.3 May Include:

- **Desk Worker ID:** In order to log into the system the receptionist's ID will be required and in case of human error, it would be helpful to know which receptionist was in charge of the booking as there are typically many receptionists on site at once in most medical facilities. Given that not including this feature would not affect the overall functionality much or at all even, we have placed it in the may include the category.

- **Optional Patient Notes:** The patient may have extra details they would like their healthcare professional to know about prior to the appointment. Since the notes are optional and some patients may not have anything they would like to outline in advance for their doctor, this has been deemed a may-include feature.

3.1.4 Exclude:

- **Self Bookings:** Our product is easy to use but it may still be difficult for some patients to self-book based on their comfort level with technology, access to technology that would support this software, and access to a stable network. Also, given that we would have professional healthcare staff using this software already for appointments made in person or on the phone, it could get complicated and overbookings could occur. To avoid these issues altogether we placed self-bookings in the exclude section.
- **Appointment Room Number:** There is little to no use in knowing the room number beforehand as it does not affect the patient or the doctor in any way. Most of the time the patient is guided to the room from the waiting room by an appointed healthcare staff anyway, and for these reasons, the appointment room number is also in the excluded section.

4 Phase #3: Prototyping

4.1 Prototype #1 (Appendix #1, 6.1)

This mock-up was for the actual booking screen and the vision was a straightforward way for doctors to be booked individually based on their availability on a chosen date. As shown in the mock-up image, filtering doctors by availability on a given day would help narrow down the list but would be problematic if there are no time slots that work on that day. In that case, the receptionist would have to back out and then select the next doctor to see if the timing for them works and so on.

Additionally, a little note was made at the bottom which exemplified the idea of a staff schedule being implemented. In the staff schedule page mock-up, each of the doctor's availability for a given week is provided, and the ability to scroll through different weeks is provided at the top right. No changes were made to this page as everything incorporated into the design seemed necessary and minimal so there was not anything to add or take away from the original mock-up.

4.2 Prototype #2 (Appendix #1, 6.2)

This mock-up was particularly for the booking page where the user scans over three actions on one page and chooses them accordingly to finalize a booking for the patient. The vertical boxed list on the left would only have available doctors automatically filtered out on a given day and time that is shown at the bottom. The time at the bottom can be changed and an updated list of doctors will be shown. The patient information remains static on the right center of the page.

For the final design, the patient information section has been incorporated. Rest has not been taken into consideration since it can be confusing for the user to deal with these components together.

4.3 Prototype #3 (Appendix #1, 6.3)

The idea of this prototype was to make it easy for users to simultaneously view and schedule bookings so that they don't have to constantly switch between an appointments booking page and an appointments viewing page. A calendar view seemed to be the simplest way for users to quickly gain a visual understanding of the overall status of the clinic. Key features of this prototype include color coding for different appointment types, appointment filtering by a doctor, and the ability to schedule appointments via a pop-up window that appears when an appointment time slot is clicked on the screen.

An element of this prototype that was abandoned in the final prototype is the "Search patient" bar in the appointment scheduling popup, as we have opted to select the desired patient prior to booking them. This makes it simpler to ensure the correct patient was selected, as more patient information can be displayed in a dedicated patient search than in a drop-down menu.

4.4 Prototype #4 (Appendix #1, 6.4)

This mock-up was used to make the booking process easier. The idea was to create boxes which demonstrate which doctor is working for the particular week selected. Once the user selects a doctor the user can then select the patient assigned to the doctor. Once the user clicks on the patients they can then view the patient's information such as birthday, phone number, address, etc. On the left side, the user can make notes or view notes made regarding the patient or the patient's current medical issues. Under the patient's name, the user can set a reminder option for the patient to be reminded regarding their appointment.

4.5 Prototype #5 (Appendix #1, 6.5)

The idea of this prototype was to explain in detail how the booking process works. Once the user selects a certain doctor, they then select the patient. Once that's done the user is directed to a page with the patient's information such as the patient's last visit, any outstanding balance, contact information, address, birthday and most importantly the status of the appointment. The status of the appointment will define whether the patient receives a "no-show" tag or not. When the user clicks on "Book Appointment", they then are directed to a calendar page to select a time slot. After the time slot has been selected, the appointment has been booked. The user has an option to set a reminder to remind the patient regarding their appointment closer to the date.

5 Phase #4: Team discussions and walkthrough

5.1 Task #1 - Booking a new patient

5.1.1 Task Walkthrough

Step Number	Step Description	Knowledgeable?	Motivated	Problems & Solutions
1	User clicks the "patient page" icon,	Yes, all actions related to patients are intuitively accessed by the "patient page" button.	Yes, the user needs to go to view to the patient page in order to book appointments for any patient.	N/A
2	User clicks "New Patient" on the Quick Options menu.	Yes, all fields on the Quick Options menu are explicitly labelled and "New Patient" is right at the top.	Yes, the user needs to create a file for the patient in order to book their appointment.	N/A
3	User enters patient information gathered from the patient.	Yes, all information fields are clearly labelled and appear on the same screen.	Yes, the user needs to enter all patient fields in order to proceed.	<ul style="list-style-type: none"> • Problem #1: The user could enter patient information wrong. • Solution #1: Add a verification page to verify details before submitting.
4	User validates that there are no error messages being displayed.	Yes, the errors are clearly displayed and explain the issue.	Yes, the user needs to ensure the information entered is correct before being able to book an appointment.	N/A
5	User clicks the "Create & Book" Button.	Yes, the button is clearly labelled and matches the user's current goal of booking a new patient's appointment.	Yes, the user's goal is to both create a new patient file and book them in.	N/A

6	User selects desired appointment time from the Calendar Page	User has asked the patient for their preferred appointment times and preferred doctor.	Yes, the user's goal is to complete the patient's booking.	<ul style="list-style-type: none"> • Problem #1: It may be unclear to the user that they have to click on a date to trigger the appointment booking pop-up window. • Solution #1: Could noticeably change the cursor when the user hovers over the calendar, or could highlight blocks of time in the calendar when they hover over.
7	User selects Doctor, Appointment Type and Time for an appointment.	Yes, fields are clearly labelled and the user has verbally requested the required information from the patient.	Yes, the user's goal is to schedule an appointment for the given patient.	<ul style="list-style-type: none"> • Problem #1: User may have selected the incorrect date when clicking the calendar view. • Solution #1A: Display the date of the appointment on the "Schedule appointment" pop-up window. • Solution #1B: Make appointment date an editable field in the "schedule appointment" window or make it possible to click & drag to move appointment blocks.
8	User clicks on the "Book Appointment" button.	Yes, the button is clearly labelled. If booking an appointment is a success, a success message is displayed.	Yes, the user's goal is to submit the fields they have just entered.	N/A

5.1.2 Summary

Pros	Cons
<ul style="list-style-type: none">• Fast appointment creation thanks to shortcuts.• Fields, pages and buttons are intuitively labelled.	<ul style="list-style-type: none">• Potential for user error when entering information.Lack of error-checking.• May be unclear how to schedule appointments in the calendar view.

5.2 Task #2 - Booking a no-show patient

5.2.1 Task Walkthrough

Step Number	Step Description	Knowledgeable?	Motivated	Problems & Solutions
1	User clicks on the "patient page" icon within the taskbar.	Yes, all actions related to patients are intuitively accessed by the "patient page" button.	Yes, the user needs to go to view the patient page in order to book appointments for any patient.	N/A
2	User clicks "Patient Lookup" on the Quick Options menu.	Yes, all fields on the Quick Options menu are explicitly labelled.	Yes, the user needs to look up a file for the patient in order to clear their file of the no-show fee and book an appointment for them.	N/A
3	User enters the patient's healthcare number.	Yes, all fields on the "Patient Lookup" are explicitly labelled.	Yes, the user needs to enter this information to be able to locate the patient's file.	<ul style="list-style-type: none"> • Problem #1: User incorrectly enters the patient's information. • Solution #1A: Using basic regular expressions, we can verify that the information meets the expected criteria. • Solution #1B: Add an extra verification page to verify the patient information is correct before moving on.

4	User will click on the no-show tag to see the required payment.	Yes, the information on the page is explicitly marked and provides all the required details.	Yes, the user must view this information to further proceed with the booking process.	<ul style="list-style-type: none"> • Problem #1: The no-show tag may not be noticed right away. • Solution #1A: Disable (gray out) the options to book patients and make the tag much more visible. • Solution #1B: Go to a modified patient page, that only contains their information, and shows the details for the no-show tag.
5	User will now mark the no-show tag as paid, removing the tag from the file.	Yes, the button is explicitly labelled.	Yes, the user will be motivated to remove this tag so that they can book the patient.	N/A
6	User selects desired appointment time from the Calendar Page.	User has asked the patient for their preferred appointment times and preferred doctor.	Yes, the user's goal is to complete the patient's booking.	<ul style="list-style-type: none"> • Problem #1: It may be unclear to the user that they have to click on a date to trigger the appointment booking pop-up window. • Solution #1: Could noticeably change the cursor when the user hovers over the calendar, or could highlight blocks of time in the calendar when they hover over.

7	User selects Doctor, Appointment Type and Time for an appointment.	Yes, fields are clearly labelled and the user has verbally requested the required information from the patient.	Yes, the user's goal is to schedule an appointment for the given patient.	<ul style="list-style-type: none"> • Problem #1: User may have selected the incorrect date when clicking the calendar view. • Solution #1A: Display the date of the appointment on the "Schedule appointment" pop-up window. • Solution #1B: Make appointment date an editable field in the "schedule appointment" window or make it possible to click & drag to move appointment blocks.
8	User clicks on the "Book Appointment" button.	Yes, the button is clearly labelled. If booking an appointment is a success, a success message is displayed.	Yes, the user's goal is to submit the fields they have just entered.	N/A

5.2.2 Summary

Pros	Cons
<ul style="list-style-type: none"> • Simple and straightforward design, making the task easy to do. • Information is explicitly labelled, to avoid any confusion. 	<ul style="list-style-type: none"> • No-show tag may not be clear.

5.3 Task #3 - Rescheduling an appointment

5.3.1 Task Walkthrough

Step Number	Step Description	Knowledgeable?	Motivated	Problems & Solutions
1	User clicks on the "patient page" icon within the taskbar.	Yes, all actions related to patients are intuitively accessed by the "patient page" button.	Yes, the user needs to go to view the patient page in order to book appointments for any patient.	N/A
2	User clicks "Patient Lookup" on the Quick Options menu.	Yes, all fields on the Quick Options menu are explicitly labelled.	Yes, the user needs to look up a file for the patient in order to clear their file of the no-show fee and book an appointment for them.	N/A
3	User enters the patient's healthcare number.	Yes, all fields on the "Patient Lookup" are explicitly labelled.	Yes, the user needs to enter this information to be able to locate the patient's file.	<ul style="list-style-type: none"> • Problem #1: User incorrectly enters the patient's information. • Solution #1A: Using basic regular expressions, we can verify that the information meets the expected criteria. • Solution #1B: Add an extra verification page to verify the patient information is correct before moving on.
4	User selects "modify appointment" which redirects them to a calendar page that outlines where their current appointment is.	Yes, all actions related to choosing to modify a patient's appointment are explicitly labelled.	Yes, the user needs to go to the calendar page in order to select an available time for the patient to reschedule to.	N/A

6	User selects desired appointment time from the Calendar Page	User has asked the patient for their preferred appointment times and preferred doctor.	Yes, the user's goal is to complete the patient's booking.	<ul style="list-style-type: none"> • Problem #1: It may be unclear to the user that they have to click on a date to trigger the appointment booking pop-up window. • Solution #1: Could noticeably change the cursor when the user hovers over the calendar, or could highlight blocks of time in the calendar when they hover over.
7	User selects Doctor, Appointment Type and Time for an appointment.	Yes, fields are clearly labelled and the user has verbally requested the required information from the patient.	Yes, the user's goal is to schedule an appointment for the given patient.	<ul style="list-style-type: none"> • Problem #1: User may have selected the incorrect date when clicking the calendar view. • Solution #1A: Display the date of the appointment on the "Schedule appointment" pop-up window. • Solution #1B: Make appointment date an editable field in the "schedule appointment" window or make it possible to click & drag to move appointment blocks.
8	User clicks on the "Book Appointment" button.	Yes, the button is clearly labelled. If booking an appointment is a success, a success message is displayed.	Yes, the user's goal is to submit the fields they have just entered.	N/A

5.3.2 Summary

Pros	Cons
<ul style="list-style-type: none">Fields, pages and buttons are intuitively labelled.	<ul style="list-style-type: none">May be unclear how to schedule appointments in the calendar view.

5.4 Task #4 - Marking a patient as a no-show

5.4.1 Task Walkthrough

Step Number	Step Description	Knowledgeable?	Motivated	Problems & Solutions
1	User checks the calendar view.	Yes, a calendar is an intuitive way for the user to view the status of current appointments.	Yes, checking in patients for appointments is part of the user's job.	<ul style="list-style-type: none"> • Problem #1: User may not realize that an appointment has lapsed without the patient showing up. • Solution #1: Add a "check-in" feature to indicate when patients show up for their appointments. Send users an alert or notification when patients have not been "checked in" for their appointments after the appointment has passed.

2	User click on the appointment in the calendar view to bring up appointment details.	Yes, the calendar view is the main way that information about appointments is viewed.	Maybe. In the case of multiple receptionists, the user may not even be aware that this appointment was missed.	<ul style="list-style-type: none"> • Problem #1: The receptionist might not know that a patient didn't show up, the application currently only supports booking and not checking in. • Solution #1: Implement a check-in system for appointments. • Problem #2: User has to mentally calculate how much time has passed since the missed appointment was supposed to occur. • Solution #2: Could grey out or change the color of appointments in the calendar for which a given amount of time has passed without the patient being checked in.
3	User navigates to patient look-up to look up the patient who missed their appointment.	Yes, this should take at most two clicks and the taskbar is clearly labelled.	Yes, the user wants to add a no-show tag to the given patient's file.	N/A

4	User looks up a patient by name.	Maybe, the user might not be able to mentally remember the patient information that they saw in the calendar view.	Yes, the user wants to find the given patient to add a no-show tag to their file.	<ul style="list-style-type: none"> • Problem #1: User has to mentally recall patient information when looking it up. • Solution #1A: Could make it possible to click on the patient's information when viewing the appointment in the calendar view (via hyperlink). • Solution #1B: Could simply automate the process of adding a no-show tag to patient files, if the check-in process mentioned earlier is implemented.
5	User selects the desired patient from search results.	No, if there are multiple patients with the same name, the user probably doesn't have enough information to know which one is the patient they're looking for.	Yes, the user needs to look up the patient to access their file.	Same as above.
6	User clicks "update patient" on the patient's file.	Yes, if the user has made it here then they had the information required to find the patient. The update patient button is clearly labelled.	Yes, the user's goal is to update a patient's file.	N/A
7	User checks the "no-show" checkbox on the patient's file.	Yes, the no-show checkbox is a familiar field in every patient's file.	Yes, this step is the main goal of the user during this task.	N/A

5.4.2 Summary

Pros	Cons
<ul style="list-style-type: none"> Calendar view is a good way to get a bird's eye view of upcoming/missed appointments. 	<ul style="list-style-type: none"> User has to memorize too much information. User has to manually navigate between several windows to complete the task. Lack of a check-in system to even verify if patients have missed their appointment.

5.5 Task #5 - Updating a patient file

5.5.1 Task Walkthrough

Step Number	Step Description	Knowledgeable?	Motivated	Problems & Solutions
1	User clicks on the "patient page" icon within the taskbar.	Yes, all actions related to patients are intuitively accessed by the "patient page" button.	Yes, the user needs to go to view the patient page in order to book appointments for any patient.	N/A
2	User clicks "Patient Lookup" on the Quick Options menu.	Yes, all fields on the Quick Options menu are explicitly labelled.	Yes, the user needs to look up a file for the patient in order to clear their file of the no-show fee and book an appointment for them.	N/A
3	User enters the patient's healthcare number.	Yes, all fields on the "Patient Lookup" are explicitly labelled.	Yes, the user needs to enter this information to be able to locate the patient's file.	<ul style="list-style-type: none"> Problem #1: User incorrectly enters the patient's information. Solution #1A: Using basic regular expressions, we can verify that the information meets the expected criteria. Solution #1B: Add an extra verification page to verify the patient information is correct before moving on.

4	User proceeds to update the information that has been requested to be updated by clicking any fields that need to be updated.	Yes, all fields on the patient file are explicitly marked.	Yes, the user wants to enter the updated information as requested.	<ul style="list-style-type: none"> • Problem #1: User incorrectly enters the patient's information. • Solution #1A: Using basic regular expressions, we can verify that the information meets the expected criteria. • Solution #1B: Add an extra verification page to verify the patient information is correct before moving on.
5	User hits "Update Patient" to finalize the changes.	Yes, the button is explicitly labelled.	Yes, the user needs to confirm changes in order to finalize and update patient information.	N/A

5.5.2 Summary

Pros	Cons
<ul style="list-style-type: none"> • Simple and straightforward designing, making the task easy to do. • Information is explicitly labelled, to avoid any confusion. 	<ul style="list-style-type: none"> • N/A

6 Appendix #1 - Early Prototypes

6.1 Prototype #1

ref 10
2
B

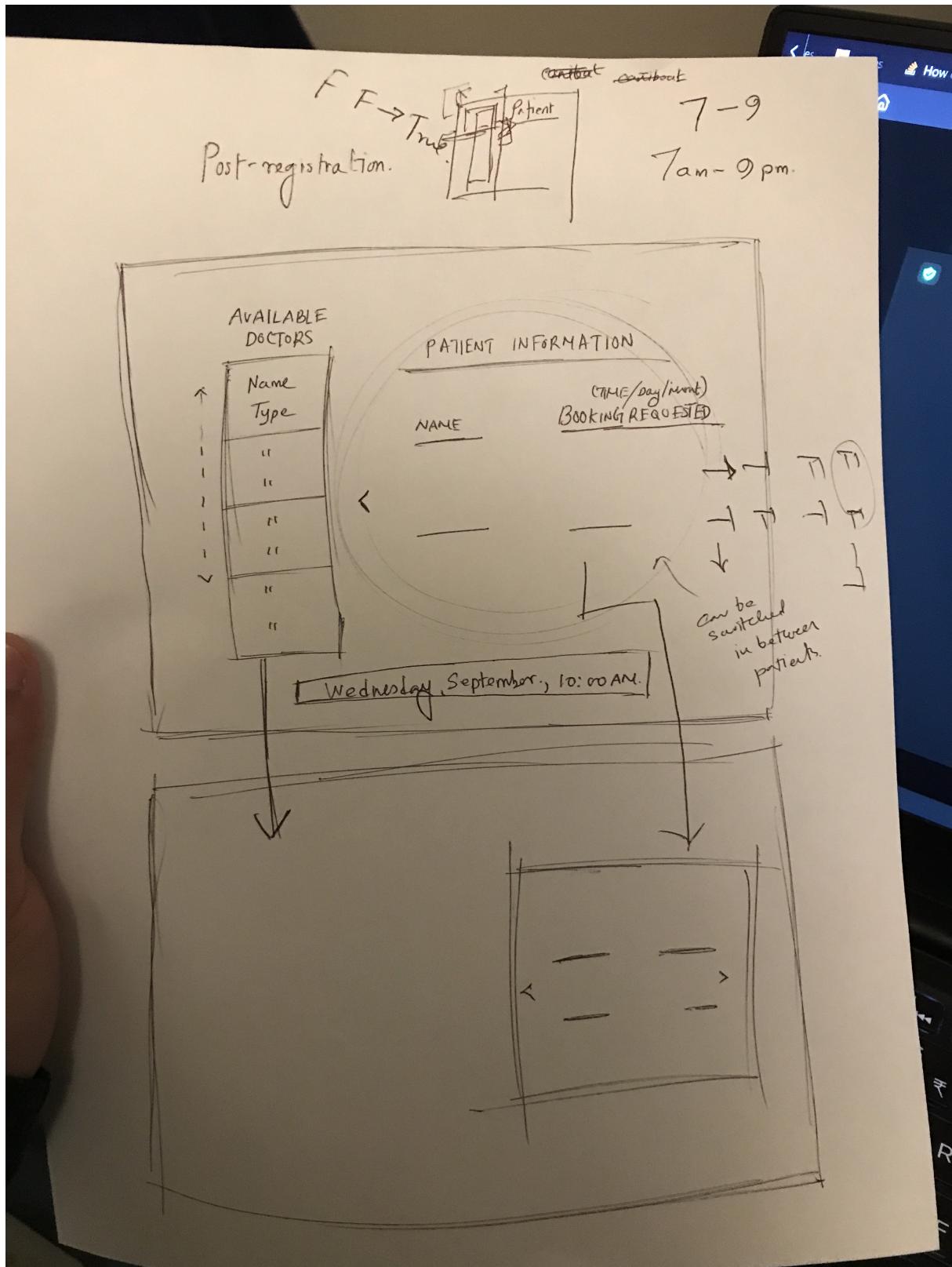
STAFF AVAILABILITY : * CURRENT DATE *		
	NAME AVAILABLE	<input type="button" value="Book / See Times"/>
	NAME AVAILABLE	<input type="button" value="Book / See Times"/>
	NAME UNAVAILABLE	<input type="button" value="Book / See Times"/>
	NAME AVAILABLE	<input type="button" value="Book / See Times"/>

* We should also add a Staff Schedule page somewhere.

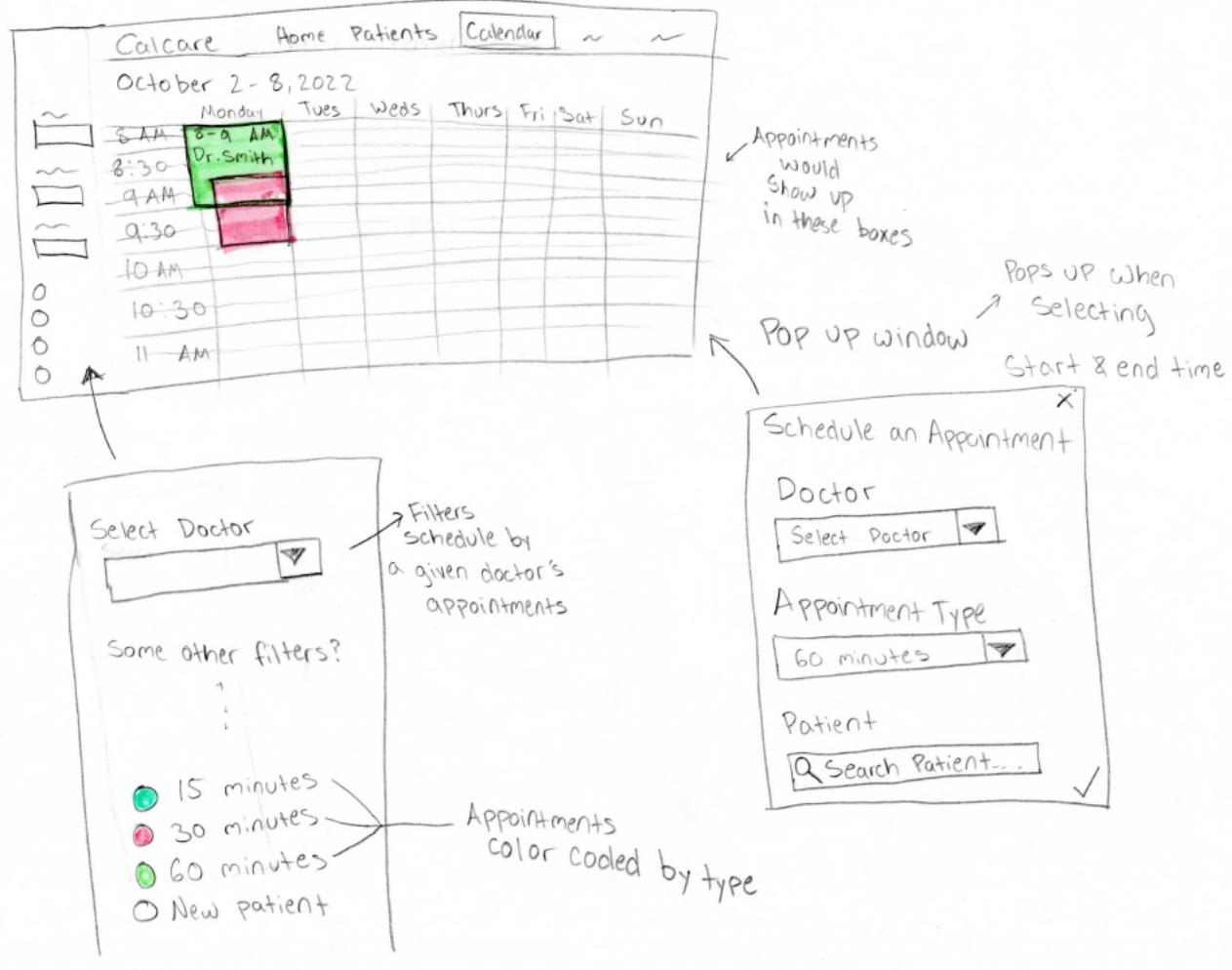
This Week **SUN OCT 2nd, 2022 - SUN OCT 8th, 2022**

	2 SUNDAY	3 MONDAY	4 TUESDAY	5 WEDNESDAY	6 THURSDAY	7 FRIDAY	8 SATURDAY
DOCTOR #1 NAME ID # 1234567	Not Scheduled	8:00a-4:00p	Not Scheduled>
DOCTOR #2 NAME ID # 0000000	Not Scheduled	Not Scheduled	9:00a- 3:00p>
DOCTOR #3 NAME ID # 1111111	Not Scheduled	Not Scheduled	10:00a- 6:00p>
DOCTOR #4 NAME ID # 2222222	9:00a- 5:00p	Not Scheduled	Not Scheduled>
DOCTOR #5 NAME ID # 3333333	9:00a- 5:00p	10:00a- 6:00p	Not Scheduled>

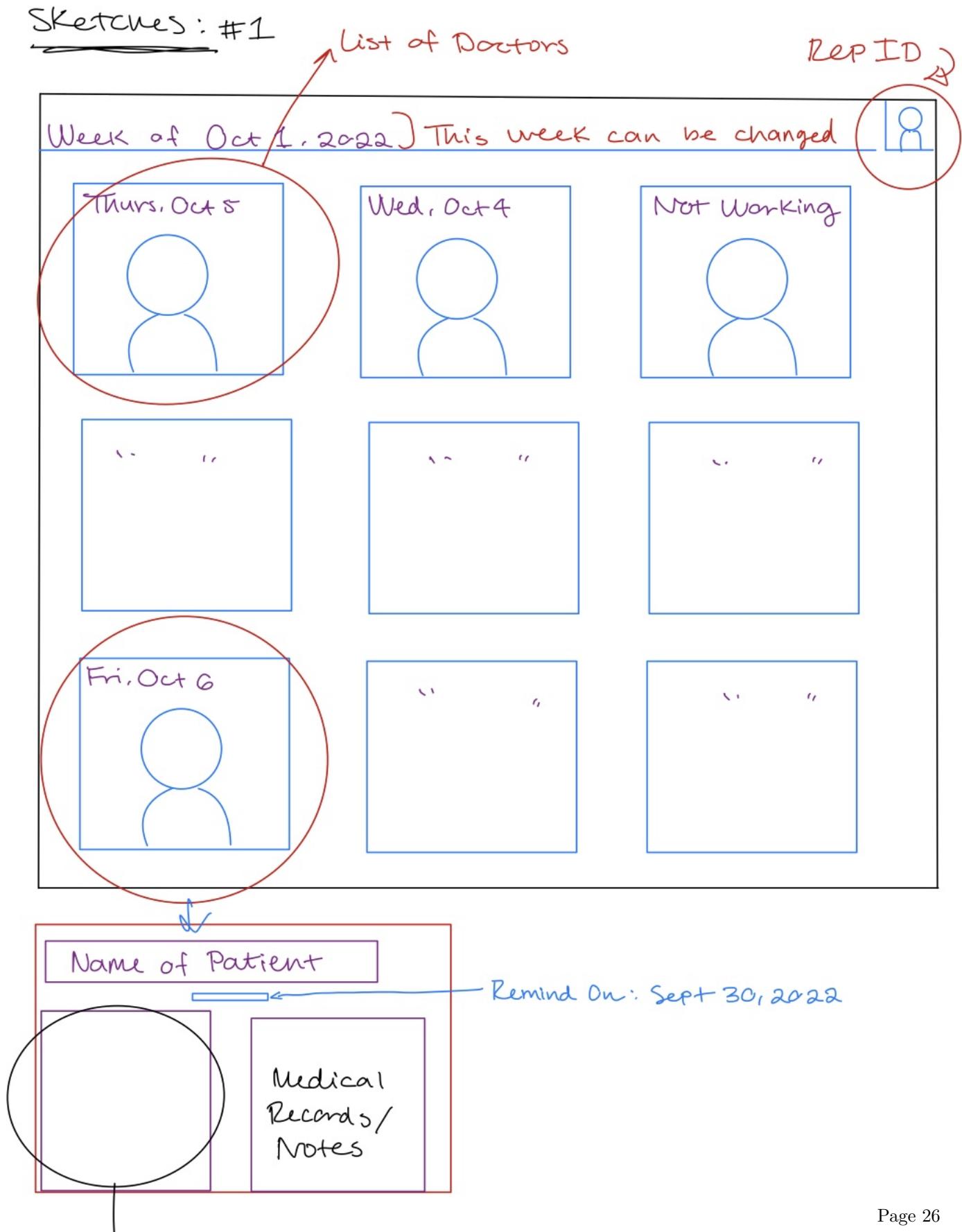
6.2 Prototype #2



6.3 Prototype #3

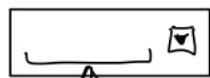


6.4 Prototype #4





Status:



Please select
a option

Has a drop down menu
which states "Armed" OR "No-Snow (\$30)"

Contact: 403-997-7735

Address: 555 Disney road NW

Birthday: Jan/01/2001

Health Card Number: ##

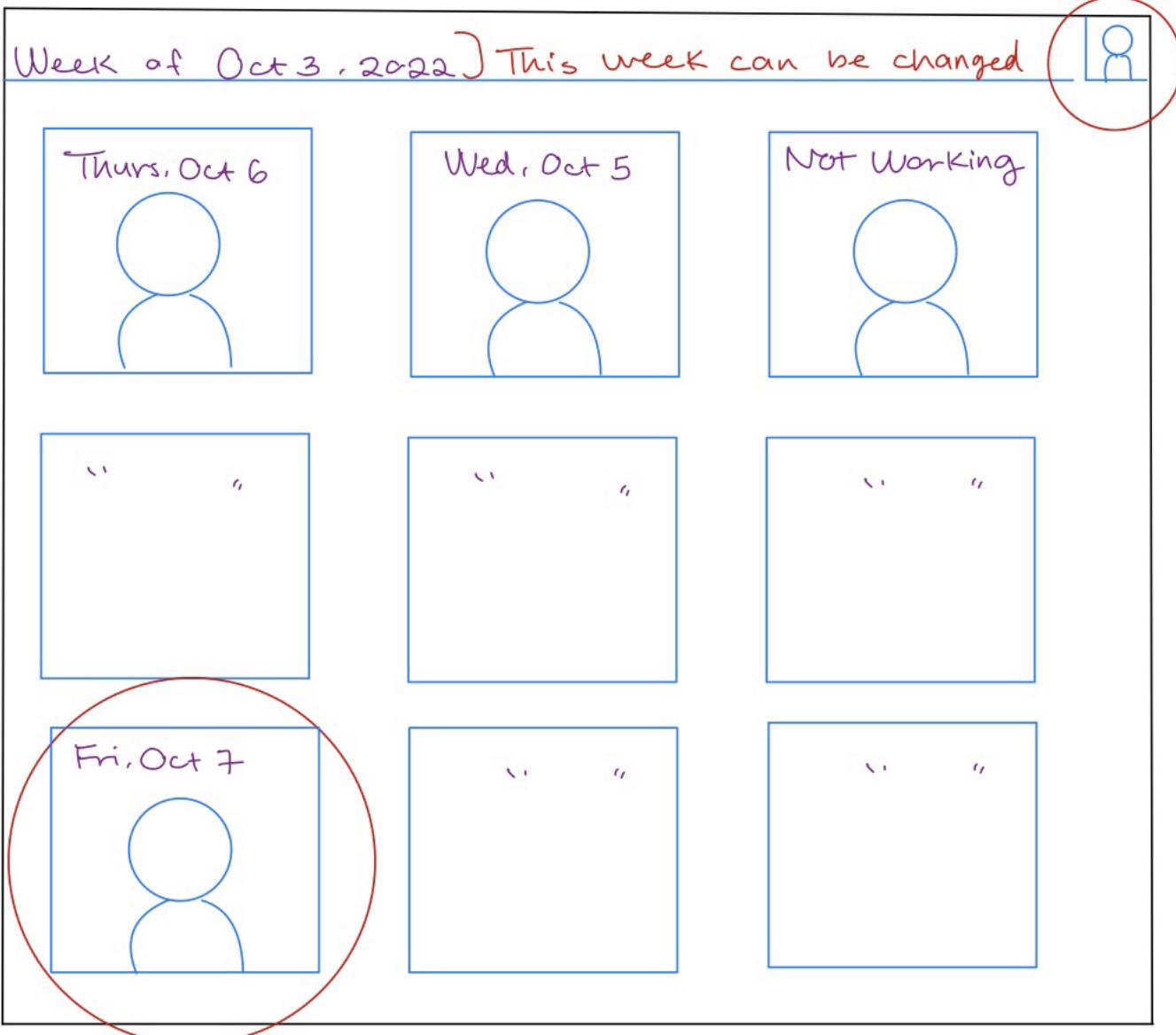
What was my idea?

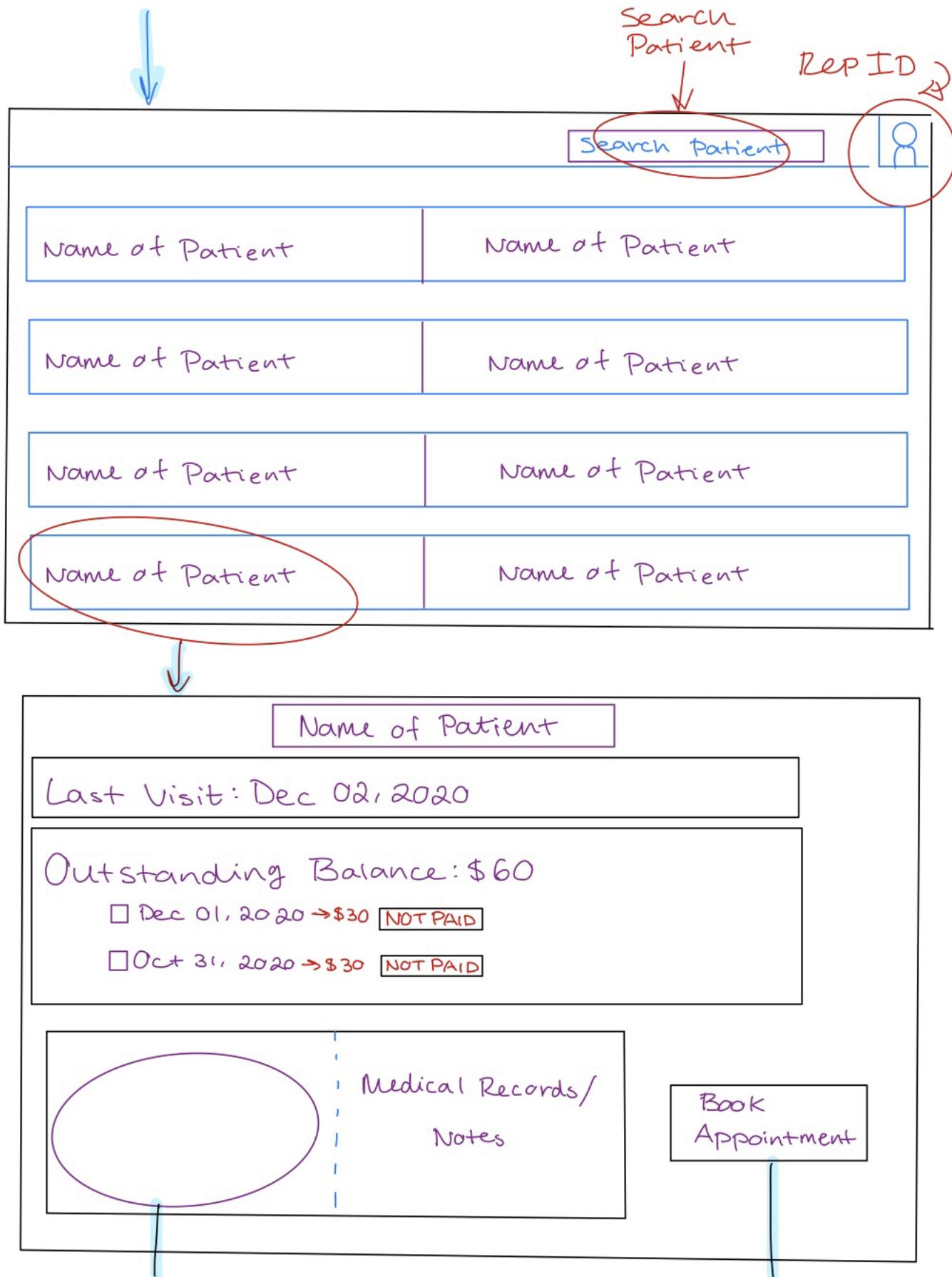
- ↳ My idea is to create boxes which demonstrate when the doctor is working next during that week.
- ↳ Once rep chooses a doctor we then can view the doctors patients.
- ↳ When you click on the patient you can see their personal info such as: B-day, phone #, address, etc.
- ↳ On the left side you can see or make notes of the patients previous or current medical issues.
- ↳ Under the patients name you can set a reminder option for the patient to be reminded for their appointment. This reminder text will be sent automatically.

6.5 Prototype #5

Sketches: #3

REP ID ↗





Status:
 Please select a option

Has a drop down menu which states "Arrived" OR "No-show (\$30)"

Photo of Dr. ↗

Contact: 403-997-7735

Address: 555 Disney road NW

Birthday: Jan 01 / 2001

Health Card Number: ##

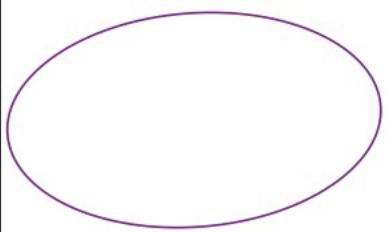
Appointment Has
Been Booked
Successfully!

Time	Sunday	Monday	Tuesday
11:00am	-Emily Joe		
11:30am	-Sam Joe		
12:00pm			
12:30pm			
1:00pm	-Sally Ju		
1:30pm	-Emma Ju		
:	-Mia Ju		
	-Bob Ju		

appointment will be
booked during this time

Display Screen ↘

Name of Patient	Remind On: Oct 7, 2022
Last Visit: Dec 02, 2020	
Outstanding Balance: \$60 <input type="checkbox"/> Dec 01, 2020 → \$30 NOT PAID <input type="checkbox"/> Oct 31, 2020 → \$30 NOT PAID	

	Medical Records/ Notes	Appointment Booked (Monday Oct 12, 2022 @ 11:00am)
---	---------------------------	---

7 Appendix #2 - Final Prototype

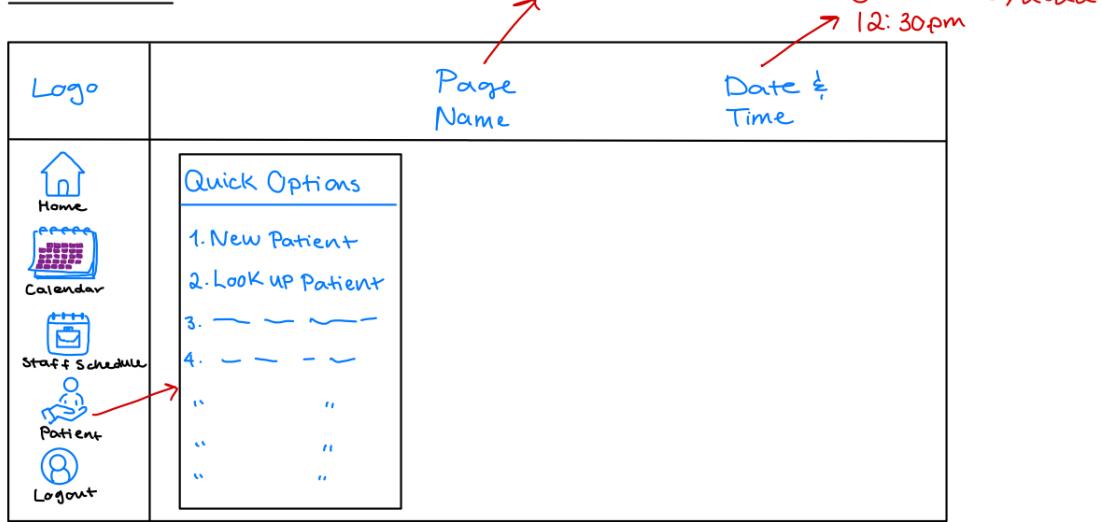
Main Page:

Logo	Page Name	Date & Time
 Home  Calendar  Staff Schedule  Patient  Logout	<p>Important Notices</p> <ol style="list-style-type: none"> 1.) Dr. Bob is leaving for vacation in 2 weeks! 2.) " " 3.) " " 4.) " " <p>Doctors</p> <p>Dr. Bob: Hours → 8-8 Available Appointment → 10 Booked → 2</p>	<p>Home</p> <p>October 5, 2022 12:30pm</p> <p>Shortcut Key</p> <p>F2 → Select a doctor F3 → Book appointment F4 → Update Patient F5 → New Patient</p>

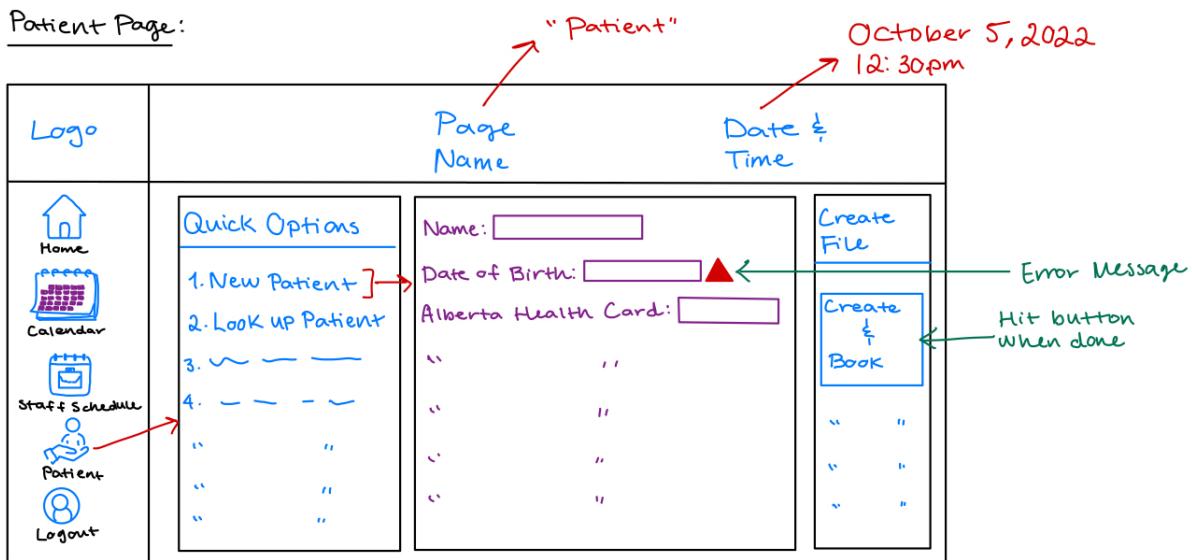
Account Page:

Logo	Page Name	Date & Time
 Home  Calendar  Staff Schedule  Patient  Logout	<p>Account Setting</p> <p>October 5, 2022 12:30pm</p> <p>Name: <input type="text"/> Email: <input type="text"/></p> <p>Clinic: <input type="text"/> Password: <input type="text"/></p> <p>Confirm</p>	

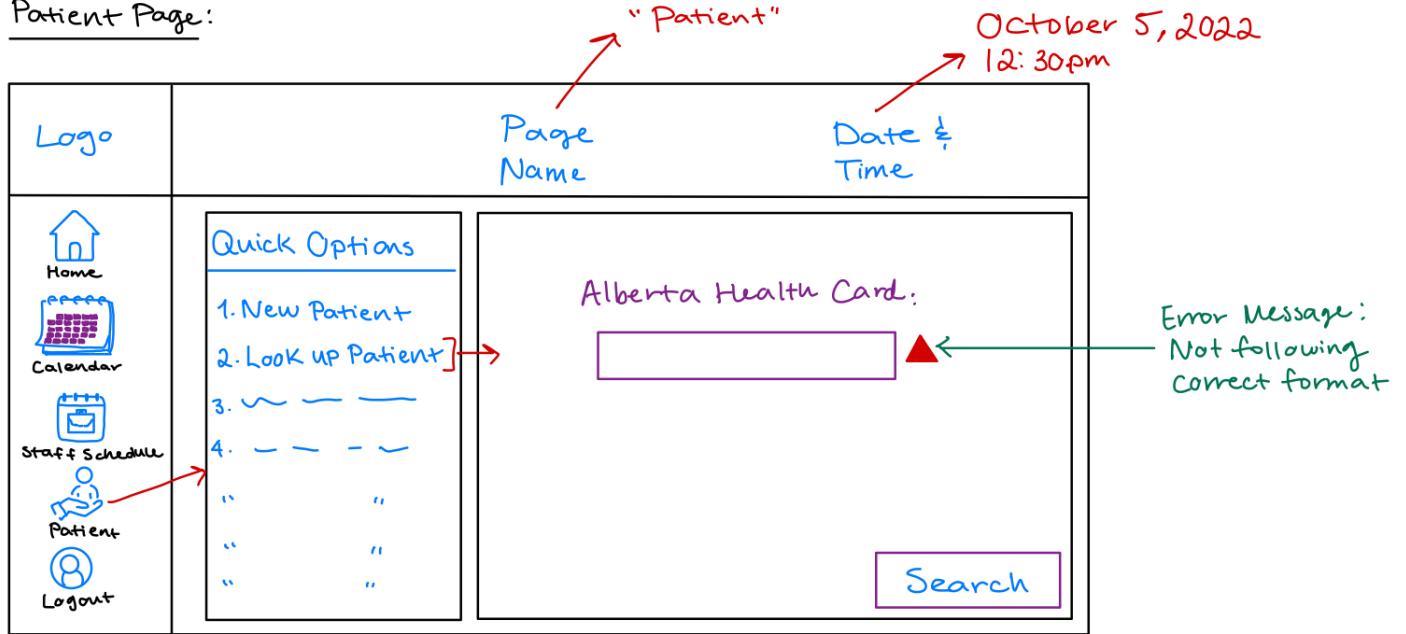
Patient Page:



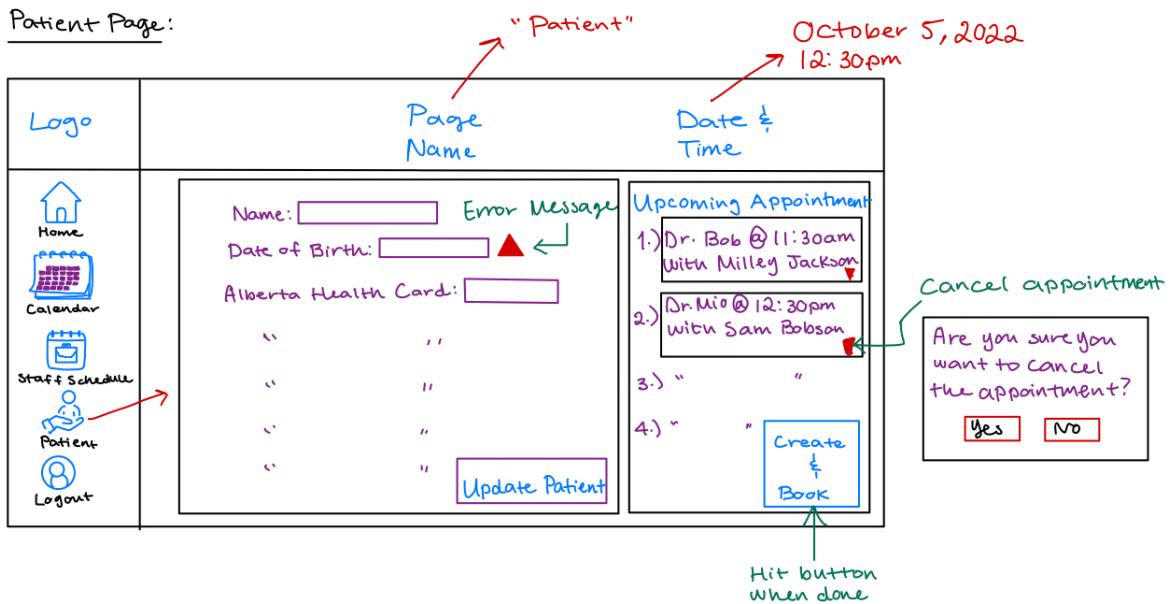
Patient Page:



Patient Page:



Patient Page:



Calendar Page:

Logo	Page Name	Date & Time
 Home  Calendar  Staff Schedule  Patient  Logout	Oct 2 - Oct 8 <input type="button" value="<"/> <input type="button" value=">"/> <input type="button" value="Day"/> <input type="button" value="Week"/> <input type="button" value="Month"/> <input type="button" value="Dr. Mio"/> Time MON TUE WED THUR FRI SAT SUN 8:00AM Dr. Bob 8:30AM Dr. Bob 9:00 AM Dr. Wu 9:30AM Dr. Mio 10:00AM Dr. Jay 10:30AM Dr. Si	"Patient" October 5, 2022 12:30pm

Pop-up Window

↓

Schedule Appointment

Doctor

Select Doctor

Appointment Type

30 minutes

Time

9:00AM - 9:30AM

Appointment has
been booked
successfully!

8 Grading Sheet

Grading Sheet

Structure and format

	Included	Not Included	
Portfolio in PDF	1	0	
Section separators	1	0	
Name on outside cover	1	0	
Name and contact information on the first page	1	0	
This grading sheet included in portfolio	4	0	
	Complete	Missing portions	Not included
Table of contents	2	1	0
	Great: no problems	Good: a few minor problems	Poor: Problems throughout (your mark in other sections may also be affected as well)
Appearance (organization, layout and whitespace)	6	4	0
	No typos, grammatical or spelling errors, clear writing style	Minor typos or grammatical errors or spelling mistakes or some writing may be a bit vague	Problems in two areas (spelling, grammar, style)
Language and writing style	7	5	3
			0
	Problems in all three areas		

Setting the stage

Clear and complete (yes) Clear and complete (no)

Background	1	0
------------	---	---

Expected uses of the system	1	0	
System constraints	1	0	
	Lists user groups along with relevant skills and experience	Lists user groups with no additional information	Information not included
Expected users	2	1	0
	Clear & complete	Some information missing or unclear	Information not included
Work context	2	1	0
	Spoke directly with actual users	Spoke with a representative of the user	Made it all up
Approach for getting background information for tasks	2	1	0

Tasks

	Appropriate No. (~5-7)	Fewer than what's needed for the usage of the system	No tasks were included in the portfolio	
Number of tasks	2	1	0	
	Covers all relevant activities	Missing a few important tasks	Missing many important tasks	No tasks were included in the portfolio
Coverage of the tasks	8	6	2	0
	No violations	A few minor violations	Many violations throughout	No tasks were included in the portfolio
Do the tasks follow the properties of a good task?	8	6	2	0

Prototypes

	Two or more	One	
Number of versions/iterations	2	1	
	Marked improvement from version to version	Few and/or superficial changes from version to version	No evolution between prototype versions
Evolution of prototypes	6	2	0
	Provides clear idea of how prototype changed from version to version	Describes changes but some parts are unclear	None
Description of how prototypes evolved	4	2	0

Requirements

	Requirements are grouped into categories with clear and detailed explanations based on the users and their tasks	Requirements are grouped into categories, no indication of how functions were put into particular categories	Requirements are shown in a single list, no attempt at prioritization	No requirements listed
Description of system functions to be implemented	5	2	1	0

Walkthroughs

	Walkthroughs for all relevant tasks	One	Zero	
Number of walkthroughs performed	4	1	0	
	Walkthroughs conducted, all or most usability problems were caught	Walkthroughs conducted, some minor problems were missed	Walkthroughs conducted, many minor or several serious problems were missed	Walkthrough not performed

Results of conducting the walkthrough algorithm	10	8	4	0
	Walkthrough results summarized for each scenario/task An analysis conducted that summarized for all tasks what are the high level and major problems	Walkthrough results summarized for each scenario/task but not for all tasks	Walkthroughs conducted and results shown in table but no additional analysis, summarizing problems	
Analysis of walkthrough results	6	3	0	
	Walkthroughs easy to follow (e.g., included diagrams at all relevant points of walkthrough, diagrams are annotated)	Some points of the walkthrough difficult to follow (e.g., walkthrough description didn't match interface, additional diagrams would have made things clearer)	Walkthroughs not conducted	
Ease of following/tracing the walkthroughs	6	3	0	

Tutorial presentations

	Provides clear background information, good tasks presented, requirements properly categorized	Minor problems: some background information unclear, minor violations in the descriptions of the tasks, requirements could better justified	Poor: task violate many properties of good tasks, or background missing or largely incomplete, requirements are not justified	No presentation
First presentation:	4	3	1	0

Phase one and two

	Walkthrough: caught most problems, clear indication of what future improvements should be Prototype: Gives a good feel for how the interaction unfolds, covers main system functions	Walkthrough: Missed a few minor problems in the walkthrough Prototype: Some parts of the interaction unclear, a few minor system functions (relevant to task) or a major function is missing	Walkthrough: Missed many minor problems in the walkthrough or a few major usability problems Prototype: several main system functions missing	Walkthrough: Many serious problems were missed in the walkthrough Prototype: main system functions were missing
Second presentation: Phase three & four	4	3	1	0
All team members completed all weekly MVP surveys to portfolio due date	Complete	Incomplete		

9 Final Submission

Final Submission

Calcare

10 Demo Screenshots

10.1 Login Page

Monday, 12 December 2022 00:38:31

Username: JohnDoe

Password:

LOG IN

10.2 Home Page

Monday, 12 December 2022 00:38:41

Important Notices

- Doctor Thomas Jasper Cat will be out this week.
- Dr. Gerald Jinx Mouse will be on vacation next week.

Doctors

- Doctor Thomas Jasper Cat has 10 appointments today
- Doctor Gerald Jinx Mouse has 5 appointments today

10.3 Calendar - Week View (Default)

Monday, 12 December 2022 00:38:56

Sunday - 11	Monday - 12	Tuesday - 13	Wednesday - 14	Thursday - 15	Friday - 16	Saturday - 17
	09:00AM Open	09:00AM Open	09:00AM Open	09:00AM Open	09:00AM Open	09:00AM Open
	09:15AM Open	09:15AM Open	09:15AM Open	09:15AM Open	09:15AM Open	09:15AM Open
	09:30AM Open	09:30AM Open	09:30AM Open	09:30AM Open	09:30AM Open	09:30AM Open
	09:45AM Open	09:45AM Open	09:45AM Open	09:45AM Open	09:45AM Open	09:45AM Open
	10:00AM Open	10:00AM Open	10:00AM Open	10:00AM Open	10:00AM Open	10:00AM Open
	10:15AM Open	10:15AM Open	10:15AM Open	10:15AM Open	10:15AM Open	10:15AM Open
	10:30AM Open	10:30AM Open	10:30AM Open	10:30AM Open	10:30AM Open	10:30AM Open
	10:45AM Open	10:45AM Open	10:45AM Open	10:45AM Open	10:45AM Open	10:45AM Open
	11:00AM Open	11:00AM Open	11:00AM Open	11:00AM Open	11:00AM Open	11:00AM Open
	11:15AM Open	11:15AM Open	11:15AM Open	11:15AM Open	11:15AM Open	11:15AM Open
	11:30AM Open	11:30AM Open	11:30AM Open	11:30AM Open	11:30AM Open	11:30AM Open
	11:45AM Open	11:45AM Open	11:45AM Open	11:45AM Open	11:45AM Open	11:45AM Open
	12:00PM Open	12:00PM Open	12:00PM Open	12:00PM Open	12:00PM Open	12:00PM Open
	12:15PM Open	12:15PM Open	12:15PM Open	12:15PM Open	12:15PM Open	12:15PM Open
	12:30PM Open	12:30PM Open	12:30PM Open	12:30PM Open	12:30PM Open	12:30PM Open
	12:45PM Open	12:45PM Open	12:45PM Open	12:45PM Open	12:45PM Open	12:45PM Open
	01:00PM Open	01:00PM Open	01:00PM Open	01:00PM Open	01:00PM Open	01:00PM Open
	01:15PM Open	01:15PM Open	01:15PM Open	01:15PM Open	01:15PM Open	01:15PM Open

10.4 Calendar - Day View

Monday, 12 December 2022 00:39:38

Time	Saturday
09:00AM	Open
09:15AM	Open
09:30AM	Open
09:45AM	Open
10:00AM	Open
10:15AM	Open
10:30AM	Open
10:45AM	Open
11:00AM	Open
11:15AM	Open
11:30AM	Open
11:45AM	Open
12:00PM	Open
12:15PM	Open
12:30PM	Open

10.5 Calendar - Month View

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 No Appointments	2 No Appointments	3 No Appointments
4 No Appointments	5 No Appointments	6 No Appointments	7 No Appointments	8 No Appointments	9 No Appointments	10 No Appointments
11 No Appointments	12 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	13 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	14 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	15 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	16 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	17 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40
18 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	19 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	20 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	21 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	22 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	23 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	24 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40
25 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	26 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	27 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	28 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	29 Scheduled Doctors: 1 Booked Appointments: 1 Available Appointments: 38	30 Scheduled Doctors: 1 Booked Appointments: 0 Available Appointments: 40	31 Scheduled Doctors: 1 Booked Appointments: 2 Available Appointments: 36

10.6 Calendar - Book New Appointment

12-12-2022

Patient AHN

Doctor

Select a doctor

Length

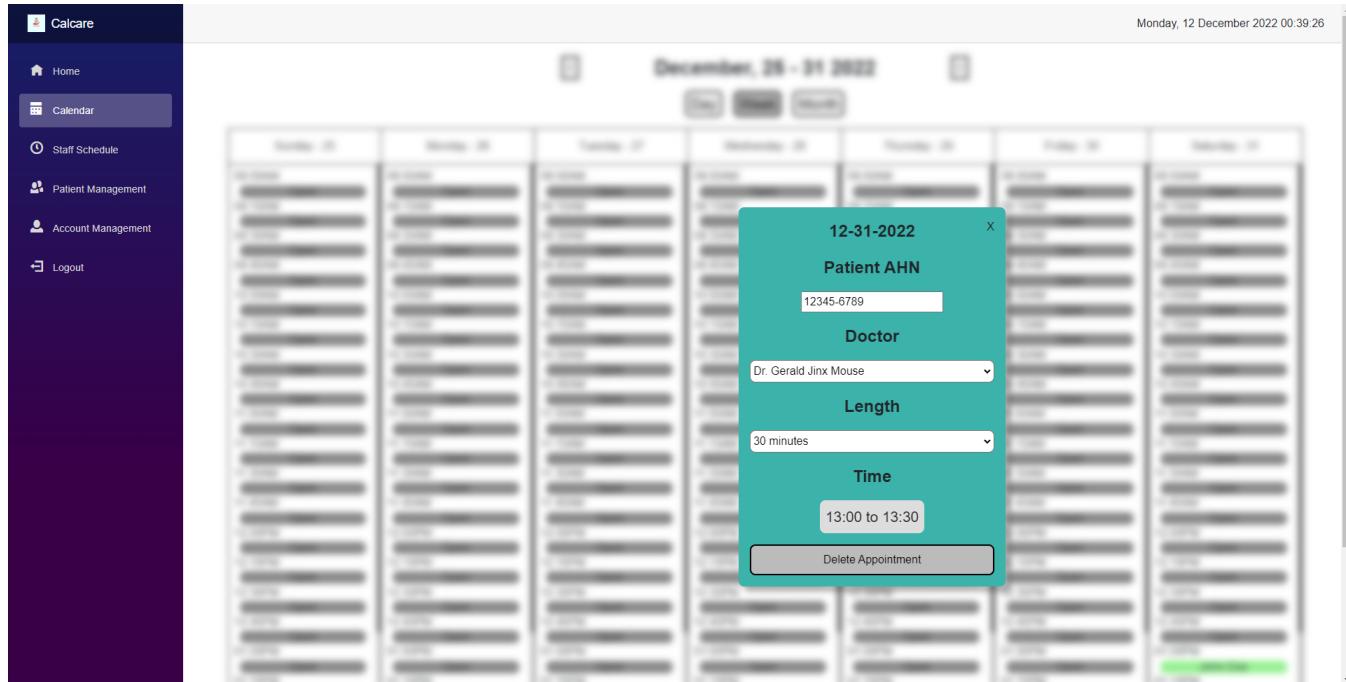
15 minutes

Time

9:00 to 9:15

Book Appointment

10.7 Calendar - Booked Appointment



10.8 Staff Section

The screenshot shows the Staff Schedule page for December 12, 2022. The staff members and their shifts are listed:

Name	Shift	Notes
Emma Webster	9:00am - 5:00pm	N/A
Dr. Gerald Jinx Mouse	9:00am - 5:00pm	On vacation next week.
Dr. Thomas Jasper Cat	Unavailable	Out due to injury from Dr. Mouse.

Navigation buttons at the bottom include: Previous Day, Today, and Next Day.

10.9 Patient Lookup

The screenshot shows the Calcare application's Patient Management module. The left sidebar has a dark blue background with white icons and text for Home, Calendar, Staff Schedule, Patient Management (which is selected and highlighted in purple), Account Management, and Logout. The main content area has a light gray background. At the top right, it says "Monday, 12 December 2022 00:40:14". In the center, the title "Patient Lookup" is displayed above a search bar containing the placeholder "Alberta Health Number...". Below the search bar are two buttons: "SEARCH" and "CREATE".

10.10 Patient Lookup - Error

The screenshot shows the same Calcare application interface as the previous one, but with an error message. The sidebar and main layout are identical. The search bar now contains the placeholder "Alberta Health Number...". Below the search bar, there is an error message box with a red border and the number "1" at the top. The message reads: "Alberta Health Care Number is required, and must follow the format: XXXXX-XXXX". The "SEARCH" and "CREATE" buttons are still present at the bottom.

10.11 Patient Creation

The screenshot shows the 'Patient Information' creation form. On the left is a dark sidebar with navigation links: Home, Calendar, Staff Schedule, Patient Management (which is highlighted in blue), and Account Management. The main area has a header 'Patient Information'. It contains several input fields: 'Name' (empty), 'Alberta Health Number' (empty), 'Date Of Birth' (empty), 'Phone' (empty), 'Email' (empty), and 'Address' (empty). A 'CREATE' button is at the bottom.

10.12 Patient Creation - Error

The screenshot shows the same 'Patient Information' creation form as above, but with validation errors. The 'Alberta Health Number' field is highlighted in red with the error message 'Alberta Health Care Number is required, and must follow the format: XXXXX-XXXX'. The 'Phone' field is also highlighted in red with the error message 'The PhoneNumber field is not a valid phone number.'. The 'Email' field is highlighted in red with the error message 'The Email field is not a valid e-mail address.'. All other fields ('Name', 'Date Of Birth', 'Address') are green, indicating they are valid or empty. The 'CREATE' button is at the bottom.

10.13 Patient Information

Patient Information

Name
John Doe

Alberta Health Number
12345-6789

Date Of Birth
01/01/1970

Phone
403-456-7890

Email
johndoe@gmail.com

Address
123 Main St, Calgary, AB, T2P 2P2

UPDATE

2022-12-29 09:00

Dr. Gerald Jinx Mouse

Delete Appointment

10.14 Staff Account

F1: [HOME] F2: [PATIENT LOOKUP] F3: [NOT SET] F4: [NOT SET]

Nurse

Name
Dr. Sarah

Clinic
Best Clinic!

Email
sarah@bestclinic.com

Password

UPDATE

localhost:5227/logout

11 Redesign Rational

11.1 Design Change #1: Removal of Shortcut Keys

We made one major alteration and several minor tweaks to the main page of our design. We removed the "Shortcut Keys" section from the body per the feedback of our peer review, which suggested that this felt out of place and was more apt for account settings. Additionally, we added separators within the two boxes as it had been noted that the previous design was difficult to read, which should make it more comprehensible.

11.2 Design Change #2: Calendar View Modification

Most of our calendar design will remain the same as the original, but with some slight modifications. Instead of the usual weekly display, the calendar will now default to a monthly view, making it easier to view multiple appointments lined up over a longer period of time. This alteration is especially useful for booking future appointments since appointments are usually booked for a month or more ahead.

11.3 Design Change #3: Staff Schedule Redesign

Initially, the intent for the staff schedule page was to reflect the visual style of the calendar page. However, after considering user feedback from other pages, we realized that it was not a suitable design for the staff schedule. Consequently, we developed an uncomplicated yet informative interface, which is easy to navigate and provides all the necessary information. The page was designed to be visually appealing as well as functional, utilizing minimalist styles and a flat design.

11.4 Design Change #4: Removal of Quick Options

During our peer review session, the "quick options" section was noted to be a large vertical box which was detracting from the main focus of the patient management page. To better emphasize the important features of the page, we decided to modify the positioning of the quick options, redesigning it to become a horizontal bar across the top. This alteration has been universally applied, ensuring that the page retains a consistent design and that the primary focus can remain on the core components of the page.

11.5 Design Change #5: Account Page Aesthetics

The account page underwent a redesign to create a more coherent aesthetic with the rest of the application. The shortcut keys that had previously been dispensed with on the main page were instead implemented within the design of the account page, to replicate the same "quick option" style present elsewhere. Additionally, the tab was streamlined, becoming less cluttered and making it simpler for the user to browse and interact with the information. To further enhance this, extra white space was added to the page and a more user-friendly layout was implemented, making the flow of the page easier to understand.

12 Heuristic Evaluation

The following document was used as a reference for the "Heuristic Violated" section: [Click Here](#)

Name	Heurisitc Violated	Description	Suggested Fix	Rating
Vardhini	4	Home page information has confusing notice board words.	Improve the homepage information section to provide clear details on website components.	2
Ricky	4	Calendar Page can be difficult to navigate when a user lands on the page.	Provide more space between each time slot hence it doesn't look crowded and increases the size of the text.	1
Haris	8	Interface follows a general scheme but there is slight deviation within certain elements such as inconsistent button sizes, text box sizes, etc. Some pages are too crowded and some are too barren.	Add more options and colours to the page for an aesthetic view.	1
Farhan	6	Calendar page can require more attention from users to understand how to navigate and use the component and there is the increased use of user's memory when using this component.	Have helper options/icons that pop up providing users with brief steps on how to use the calendar.	2
Vardhini	1	In the text fields, there are no examples of what is expected as input prior to error handling, such as for the Alberta Health Number.	Provide a background text input that outlines to the user what the expected input looks like.	2
Haris	3	No option to edit existing appointments. Users have to delete and then create a new appointment from scratch again.	Add option to edit already created appointments.	3
Ricky	9	Account Management, patient management Name fields do not have an integer check and can be mistaken to be a number field.	Implement further string validation that strongly checks for string type data only upon validation.	3
Farhan	7	Shortcut keys on certain pages like user account management are not there.	Shortcut keys that can be set custom by logged-in users can be set up as a component.	2
Haris	8	Booking appointment is not in the center and has aesthetic problems.	The booking appointment pop-up can be in the center so it's easier for the user to view while creating an appointment.	1

Ricky	5	Calendar page lacks any validation before final submission.	Use data validation for various steps in the booking process for the user to prevent any data loss.	2
Haris	6	The update buttons in account management and patient lookup need to be double-clicked in order to properly store and update the information.	Have it so that the button also works on one click instead.	3

13 Final Design Rationale and Discussion

13.1 Usability Analysis

It is evident that front-line staff would be highly adept in their respective roles. Our design guarantees that personnel of all backgrounds have the appropriate proficiency and knowledge to perform their tasks effectively. During our initial walk-through, it became apparent that the front-line staff had the capability to successfully accomplish their tasks. As further iterations were completed, the personnel's ability to competently carry out their duties only grew stronger due to the eradication of any difficulties detected during the horizontal/vertical prototype creation and heuristic analysis.

13.2 Quality of System

The system, as designed, was created to effectively meet the needs of its front-line staff in order to facilitate a more streamlined booking process. Our main focus was to create a system that was accessible to all, regardless of any prior technical or appointment booking experience. Through a careful focus on simplicity and efficiency, the final product was designed to conform to the front-line staff's needs while providing an exceptionally compelling design interface.

13.3 What went well?

The comprehensive, unified design of the application provides immense benefits for front-line staff. Not only does the integration of features enable them to quickly and accurately achieve tasks, such as helping customers, but it also simplifies the explanations of the application to new staff members. Moreover, the consistent user interface of the application ensures that customers can easily navigate the system to complete their tasks and receive the desired results without extensive guidance. This level of interconnected and consistency produces a pleasant experience for customers and staff alike and ultimately keeps everyone satisfied.

13.4 Design Strengths and Weaknesses

The calendar feature also allows staff to easily keep track of their client's appointments and any changes that occur. Staff can access this information at any time, allowing them to quickly adjust their schedule if an appointment needs to be rescheduled or cancelled. Furthermore, the calendar can be used to set the frequency of appointment reminders, giving the staff an effective way to ensure their clients never miss an appointment. The calendar can also be exported and shared with other staff members, helping to streamline communication within the organization.

While there were quite a few features our team wanted to implement, we found that there were some we had to ultimately exclude from the final working project due to time restrictions and the loss of a team member towards the end of the project.

The lack of the necessary knowledge and expertise meant that the task of creating shortcut keys had to be transferred to other members who, unfortunately, were not as familiar with the task as the original team member. This led to unforeseen delays, as the team had to spend time researching and familiarizing themselves with creating shortcut keys, which ultimately caused overall project delays as the team had to work around the missing resource before the project could be completed.

14 Grading Sheet

Grading Sheet

Structure and format

	Included	Not Included	
Portfolio in PDF	1	0	
Section separators	1	0	
Name on outside cover	1	0	
Name and contact information on the first page	1	0	
This grading sheet included in portfolio	4	0	
	Complete	Missing portions	Not included
Table of contents	2	1	0
	Great: no problems	Good: a few minor problems	Poor: Problems throughout (your mark in other sections may also be affected as well)
Appearance (organization, layout and whitespace)	6	4	0
	No typos, grammatical or spelling errors, clear writing style	Minor typos or grammatical errors or spelling mistakes or some writing may be a bit vague	Problems in two areas (spelling, grammar, style)
Language and writing style	7	5	3
			0
	Problems in all three areas		

Setting the stage

Clear and complete (yes) Clear and complete (no)

Background	1	0
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Expected uses of the system	1	0	
System constraints	1	0	
	Lists user groups along with relevant skills and experience	Lists user groups with no additional information	Information not included
Expected users	2	1	0
	Clear & complete	Some information missing or unclear	Information not included
Work context	2	1	0
	Spoke directly with actual users	Spoke with a representative of the user	Made it all up
Approach for getting background information for tasks	2	1	0

Tasks

	Appropriate No. (~5-7)	Fewer than what's needed for the usage of the system	No tasks were included in the portfolio	
Number of tasks	2	1	0	
	Covers all relevant activities	Missing a few important tasks	Missing many important tasks	No tasks were included in the portfolio
Coverage of the tasks	8	6	2	0
	No violations	A few minor violations	Many violations throughout	No tasks were included in the portfolio
Do the tasks follow the properties of a good task?	8	6	2	0

Prototypes

	Two or more	One	
Number of versions/iterations	2	1	
	Marked improvement from version to version	Few and/or superficial changes from version to version	No evolution between prototype versions
Evolution of prototypes	6	2	0
	Provides clear idea of how prototype changed from version to version	Describes changes but some parts are unclear	None
Description of how prototypes evolved	4	2	0

Requirements

	Requirements are grouped into categories with clear and detailed explanations based on the users and their tasks	Requirements are grouped into categories, no indication of how functions were put into particular categories	Requirements are shown in a single list, no attempt at prioritization	No requirements listed
Description of system functions to be implemented	5	2	1	0

Walkthroughs

	Walkthroughs for all relevant tasks	One	Zero	
Number of walkthroughs performed	4	1	0	
	Walkthroughs conducted, all or most usability problems were caught	Walkthroughs conducted, some minor problems were missed	Walkthroughs conducted, many minor or several serious problems were missed	Walkthrough not performed

Results of conducting the walkthrough algorithm	10	8	4	0
	Walkthrough results summarized for each scenario/task An analysis conducted that summarized for all tasks what are the high level and major problems	Walkthrough results summarized for each scenario/task but not for all tasks	Walkthroughs conducted and results shown in table but no additional analysis, summarizing problems	
Analysis of walkthrough results	6	3	0	
	Walkthroughs easy to follow (e.g., included diagrams at all relevant points of walkthrough, diagrams are annotated)	Some points of the walkthrough difficult to follow (e.g., walkthrough description didn't match interface, additional diagrams would have made things clearer)	Walkthroughs not conducted	
Ease of following/tracing the walkthroughs	6	3	0	

Tutorial presentations

	Provides clear background information, good tasks presented, requirements properly categorized	Minor problems: some background information unclear, minor violations in the descriptions of the tasks, requirements could better justified	Poor: task violate many properties of good tasks, or background missing or largely incomplete, requirements are not justified	No presentation
First presentation:	4	3	1	0

Phase one and two

	Walkthrough: caught most problems, clear indication of what future improvements should be Prototype: Gives a good feel for how the interaction unfolds, covers main system functions	Walkthrough: Missed a few minor problems in the walkthrough Prototype: Some parts of the interaction unclear, a few minor system functions (relevant to task) or a major function is missing	Walkthrough: Missed many minor problems in the walkthrough or a few major usability problems Prototype: several main system functions missing	Walkthrough: Many serious problems were missed in the walkthrough Prototype: main system functions were missing
Second presentation: Phase three & four	4	3	1	0
All team members completed all weekly MVP surveys to portfolio due date	Complete	Incomplete		