NURTURING U

INNOVATING A UNIVERSITY CLINIC'S CHECK-IN AND WAITING EXPERIENCE

Description:

The Nurturing U project stems from a need to improve the check-in and waiting experience for patients in the Watkins Memorial Health Center, located on the Lawrence campus of the University of Kansas. The main goal of this project is to improve the patient waiting experience inside of the main Watkins waiting area.

A final product then emerged that reflected the team's Evidence-Based Design (EBD) approach to solving the discovered problems.

OUR MAIN GOAL: IMPROVE the WAITING EXPERIENCE at Watkins Memorial Center *

Our objectives:

○ Improve privacy for users

○ Improve communication
○ Reduce stress
○ Provide users with information

○ Reduce germs in waiting room
○ Improve comfort
○ Reduce waiting time
○ Give users something to do while waiting

SOLUTION STRUCTURE:

PRIVACY

Supply patients with more private spaces.

Reduce patient contact with people other than doctor, nurse, or pharmacist.

Improve the security of personal visit information.

COMMU-NICATION

Provide patients with information about trending medical conditions, medicines, and basic health improvements.

Directive information: What to do (Wayfinding) and where to go (Infofinding).

Accuracy: give patients the appropriate information.

Alert system to let patients know their wait time.

COMFORT

Reduce Contact with patients.

Improved materials used within the space.

Keep visitors informed of current waiting time.

Provide patients with more individual spaces.

* WATKINS MEMORIAL CENTER - STUDENT HEALTH SERVICE CENTER - UNIVERSITY OF KANSAS

MISSION:
Student Health Services supports the student's learning experience through the delivery of high quality, affordable healthcare services and innovative programs that promote the health of the student, University, and community.

Watkins Memorial Health Center

SHS is commited to support student's learning experience that requieres a considerable amount of time. Waiting at the Healthcare facility for more time than expected can interfere with a student's academic activities.

An experience analysis showed that a student's typical waiting journey proceeds as such: check-in line, waiting room for nurse, exam room for doctor, for prescriptions at pharmacy, at the lab for testing.

By the 1960s, the university had outgrown Watkins Memorial Hospital, opened in January 1932. The hospital, the gift of Elizabeth Miller Watkins and named for her late husband, could not be expanded because of its hillside site, so a larger, more modern hospital was planned for the playing fields southeast of Robinson Center. George Hampton & Associates of Wichita and State Architect Kenneth R. McCain designed the dark brick building with medical director Raymond A. Schwegler. It cost $3.65 million, paid largely by student fees, and retained the original name.

The Ralph Canuteson Memorial Library is named for the first student healthdirector (1928-65). In 1988 the facility's name was changed to Watkins Memorial Health Center.

A major expansion and renovation costing $5.6 million, designed by Lawrence R. Good & Associates of Lawrence and completed in 1997, created more physicians' examining rooms, a gynecology clinic, a men's clinic, and an urgent care clinic. The health center offers treatment and educational programs in general medicine, sports medicine, nutrition, allergy management, physical therapy, immunizations and radiology.

Its 60,000 square feet included 34 inpatient beds; a clinic; a laboratory and X-ray facilities; a pharmacy; allergy and immunization, physical therapy and psychiatric treatment areas; and administrative and business offices.

A wellness resource center offers education and support in nutrition, fitness, alcohol and drug use, sexual behavior, and stress management.
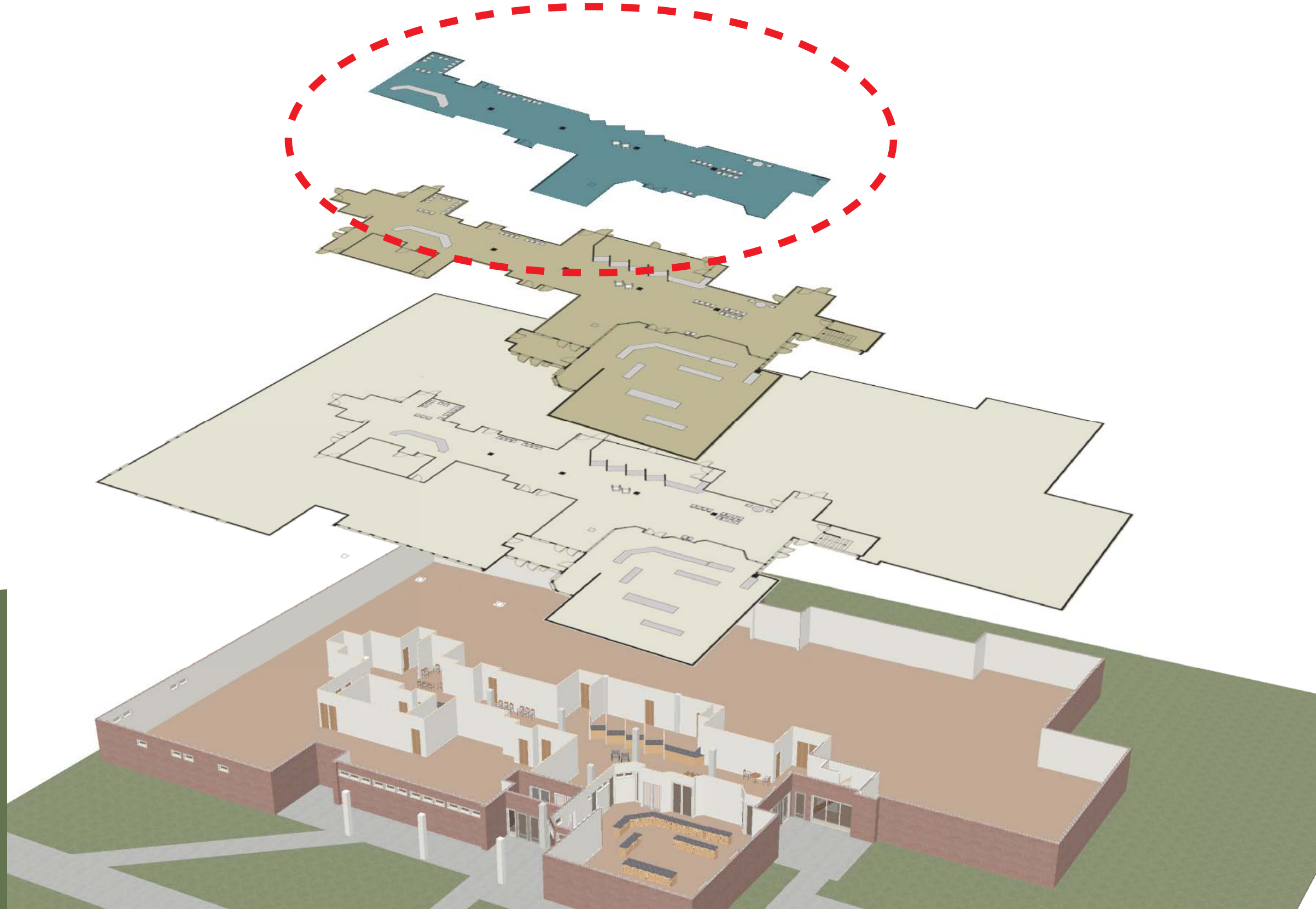
GATHERING DATA THROUGH ETHNOGRAPHIC AND LITERARY RESEARCH METHODS, THE DESIGN TEAM POINTED OUT THE MOST IMPORTANT SITUATIONS IN THE CURRENT WAITING EXPERIENCE.

No distinct signage differentiating the waiting areas (flu waiting area and other).

Lack of privacy and individual seating.

Posters are not legible.

Uncomfortable seating.

Lack of activities while waiting.

Unaware of patient waiting time.

CURRENT WAITING EXPERIENCE

A line forming to check-in.

Privacy invasive due to telling secretary out loud reason for visit as well as other personal information such as address, phone number, insurance provider.

"Personas use storytelling to engage social and emotional aspects of our brains, which helps each team member [of the design team] either visualize the best product behavior or see why the recommended design is good"

(Goodwin, 2009:229).

Frank

Frank Bartels is a 19-year-old, sophomore Finance major at the University of Kansas. He has severe allergies and requires weekly allergy shots.

Frank is instructed to arrive at the campus clinic 15 minutes early. When he arrives, he checks in by scanning his KU card and verifying his information (address, phone number, insurance).

He then proceeds to one of two waiting areas. He doesn't know which area to sit in so he sits away from patients who are coughing and appear to be sick. He doesn't want to catch what they have.

While Frank waits to be seen he plays on his iPhone and checks Facebook.

After about seven minutes on his phone, Frank becomes bored and wishes he knew how much longer the wait is.

Ten minutes after his appointment was suppose to have begun, a nurse calls his name. He approaches the nurse and heads back to have his checked. The nurse then leaves and Frank waits for Dr. Kosary to come in to give him his shot.

Dr. Kosary arrives seven minutes later and gives Frank his shot. She then reminds him to make his next appointment.

Frank leaves the exam room and decides to call the clinic later to make the appointment.

GOALS

To know how long the wait is.
To not get sick when visiting the doctor.
To have options of things to do while he waits.
To make appointments quickly.
To not repeat the same information more than once during an appointment.

Total Appointment Time: 47 Minutes
Time Spent Waiting: 32 Minutes

Sarah & Mike

Sarah Jones and her older brother, Mike, are both Psychology majors at the University of Kansas. Sarah needs to see a doctor and wants Mike there for emotional and physical support.

They arrive at the campus clinic without an appointment and hope to be seen fast. They give the secretary Sarah's information then head to the waiting area and look for a place to sit next to each other. They are unaware of how long the wait is and after about five minutes of waiting, Mike starts complaining about being hungry.

Another 30 minutes passes and a nurse finally calls Sarah's name. They get up to follow the nurse to

be weighed and have their vitals taken.

The nurse then leaves and Dr. Kosary comes into the exam room. Sarah asks Mike for privacy so he walks back to the waiting area until she is finished. Dr. Kosary determines that Sarah has a flu virus and writes her a perscription for an antibiotic.

Sarah then leave the exam room and looks for Mike out in the waiting area. They then go to the Pharmacy where it takes 20 minutes to fill the prescription.

GOALS

To sit together while waiting.
To be seen in a timely manner.
To have privacy even when a visit is joined.
To know the waiting time.
To have snack options while at clinic.

Total Appointment Time: 85 Minutes
Time Spent Waiting: 55 Minutes

Dr. Kosary

Dr. Kosary is a physician at Watkins, the University of Kansas' campus clinic. She has been a Doctor for the past 15 years and sees an average of four patients per hour.

She begins her day by seeing her first patient, Frank Bartels. His visit takes five minutes and then she stays behind to process his file information.

She then sees 11 more patients before her lunch break, including Sarah and Mike's visit, which takes 20 minutes to complete.

At noon Dr. Kosary takes her lunch break and realizes she forgot her lunch at home. She only has an hour for lunch and the closest place to eat

is 20 minute away. She wants something quick and healthy, as well as a chocolate treat.

After lunch, she sees 12 more patients before her afternoon board meeting with the clinic's administration. Today's meeting focused on a survey that showed students were not satisfied with the amount of time being spent waiting for a doctor in the exam room. This meeting informs Dr. Kosary that she needs to update patients if a delay occurs during their visit. Once finished, she leaves to go home.

GOALS

To see patients in a timely manner.
To have quick access to food items besides just vending machine treats.
To help update students about any unexpected delays that may arise.

Students role played a hypothetical situation of checking-in and waiting at Watkins. They were handed a smart phone prototype and asked to check-in using the kiosk and then proceed to the waiting area.

Students used gestures to show how they would use the application as well as think aloud protocol. This enabled them to ask for help and give feed back on areas of the interface that confused them.
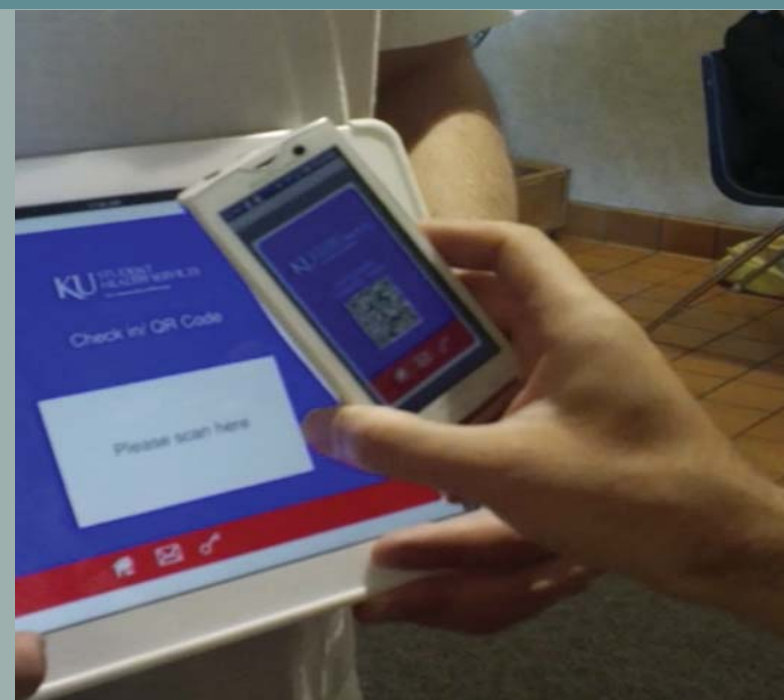
This testing allowed the design team to see which areas of the interface needed improvement.

Paper Prototype

INSIGHTS

Students want signage that defines the waiting areas.
Waiting alerts are good.
Confirm/dismiss bar is confusing on 1 minute arrival.
"I don't need an alert every five minutes."
"Tell me when the halfway point is."

PDF Prototype

INSIGHTS

"It is pretty straight forward to use."
"What is a QR Code?"
"Needs sound with alerts."
"Can I use my phone to check-in?"

The students role played a hypothetical situation of checking-in at Watkins by using a smartphone to use as part of a new check-in system. The students interacted with a self check-in kiosk prototype designed to replace the traditional person-to-person check-in system.

Students used gestures to show how they would use the kiosk as well as "think aloud" protocol. This enabled them to ask for help and give feed back on areas of the interface that confused them.

This testing allowed the design team to see which areas of the interface needed improvement.

Paper Prototype
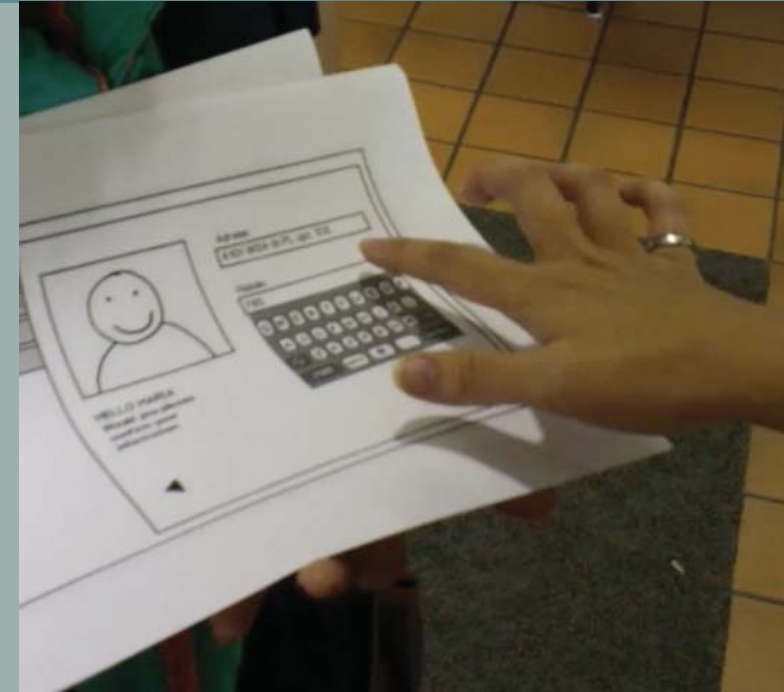
INSIGHTS

Needs a change tab to fix information.
Needs to work without a smartphone.
"Can I recieve text messages?"
Needs buttons on home page to mark activity.
"Reminds me of a self-checkout at the super market."

PDF Prototype

INSIGHTS

"The kiosk could avoid lines."
"Couldn't it be online and done from home?"
One confused person tried to scan QR code first.
"I avoid talking to people so this is a good thing."

Students were first given a "Post-It prototype" of the furniture and asked how would they like their space to be arranged. This information was then used to generate a Sketchup prototype of the space to see what Watkins would potentially look like. In the Sketchup prototype students where asked if they would use a café, how they felt about aquariums, sky tiles, and a digital waiting cue display.

Students used gestures to show how they would like the space to appear as well as "think aloud" protocol. This enabled them to ask questions and give feed back on areas of the space they liked or confused them.

This testing allowed the design team to see which areas of the space needed improvement.

Post-It Prototype
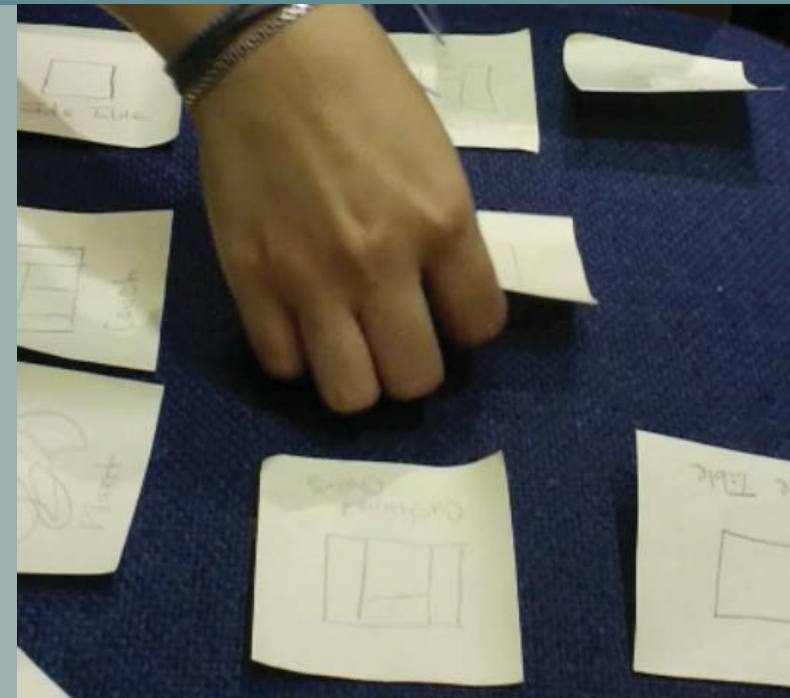
INSIGHTS

Its good to have individual spaces.
"I am not interested in interacting with other people."
"Seating like a love seat for two people would be good."
Chairs around a coffee table would improve comfort.
Students want chairs with cushioned arms.
"Add side tables for your stuff."
"It'd be nice to have vending machines."

Sketchup Prototype

INSIGHTS

Split waiting areas: "That is good."
Aquariums: "Could be nice to look at and entertaining."
Café: "Healthy food would be good."
    "I would like tea or fruit drinks. Maybe a hot drink and a sandwich."
    "People may be sleepy and like to eat while they wait here."
    "Would use it after fasting if I knew there was food there to eat."

REDESIGNING THE WAITING EXPERIENCE

HELP DESK

Directs all incoming traffic.

Could be a triage nurse for patients without appointments.

Allows patients to speak with a person instead of a machine.

CHECK-IN KIOSK

Allows patients to check-in without speaking to a person.

Allows patients to keep their information private.

Prevents long check-in lines.

Students can use their phone or ID card.

BLUE WAITING ZONE (HEALTHY PATIENTS)

Reduces the spread of germs.

Single and couples seating available.

Comfortable seating.

SEPERATE PHARMACY WAITING AREA

Distinguished those waiting for medication from those who `are seeing a doctor.

Prevents the spread of germs.

AQUARIUMS

ProvideS patients with a view.

Distract patients while waiting.

A natural stress reliever.

RED WAITING ZONE (SICK PATIENTS)
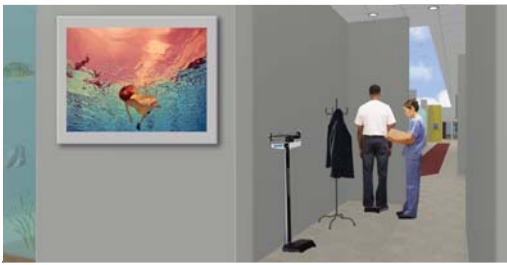
Helps control the spread of germs.

Comfortable seating.

Single and couples seating available.

WEIGHT STATION

Gives patients privacy when being weighed.

Offers a smooth transition between the waiting room and the exam room.
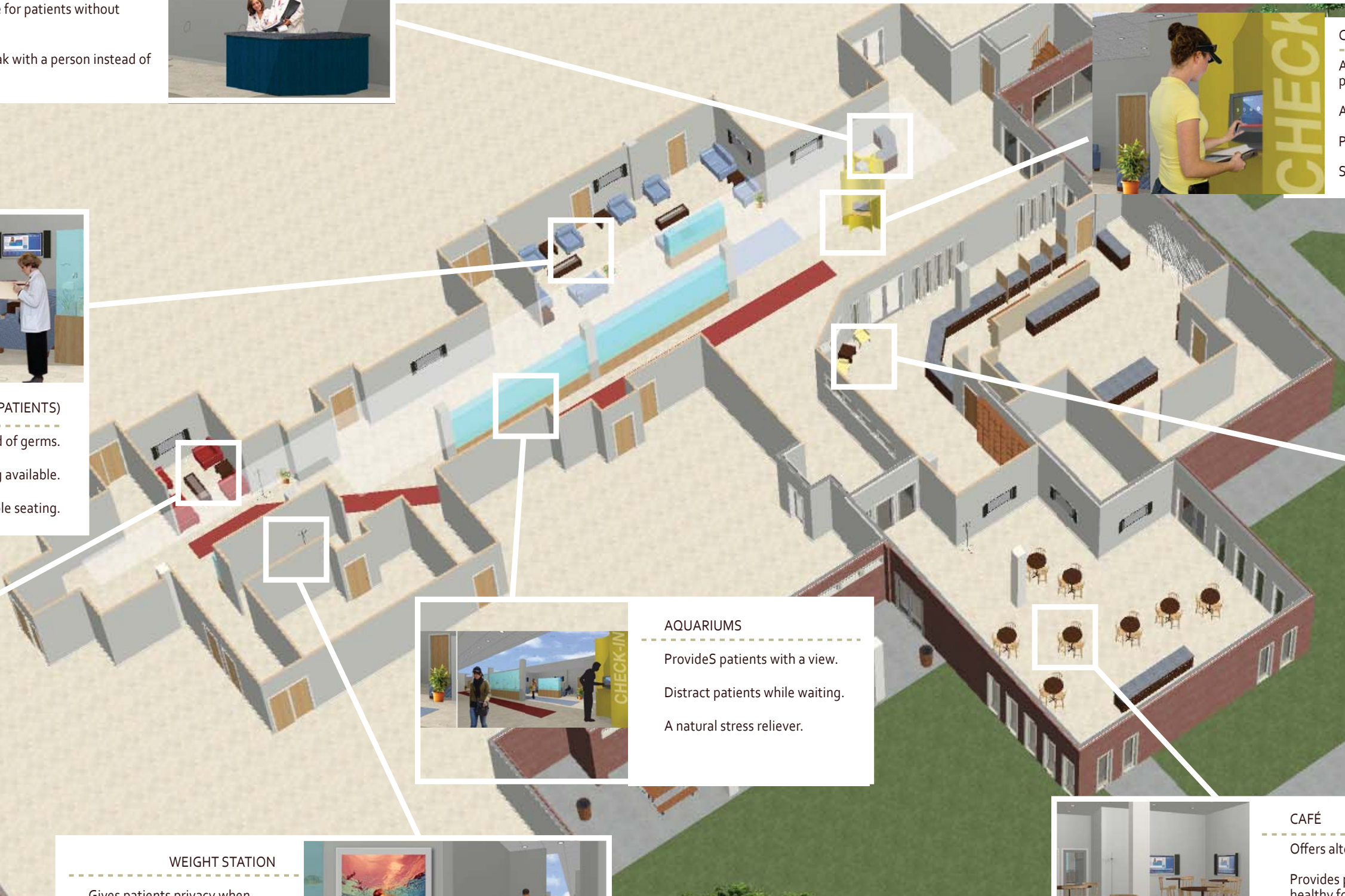
CAFÉ

Offers alternative waiting area.

Provides patients and staff with healthy food and drinks.

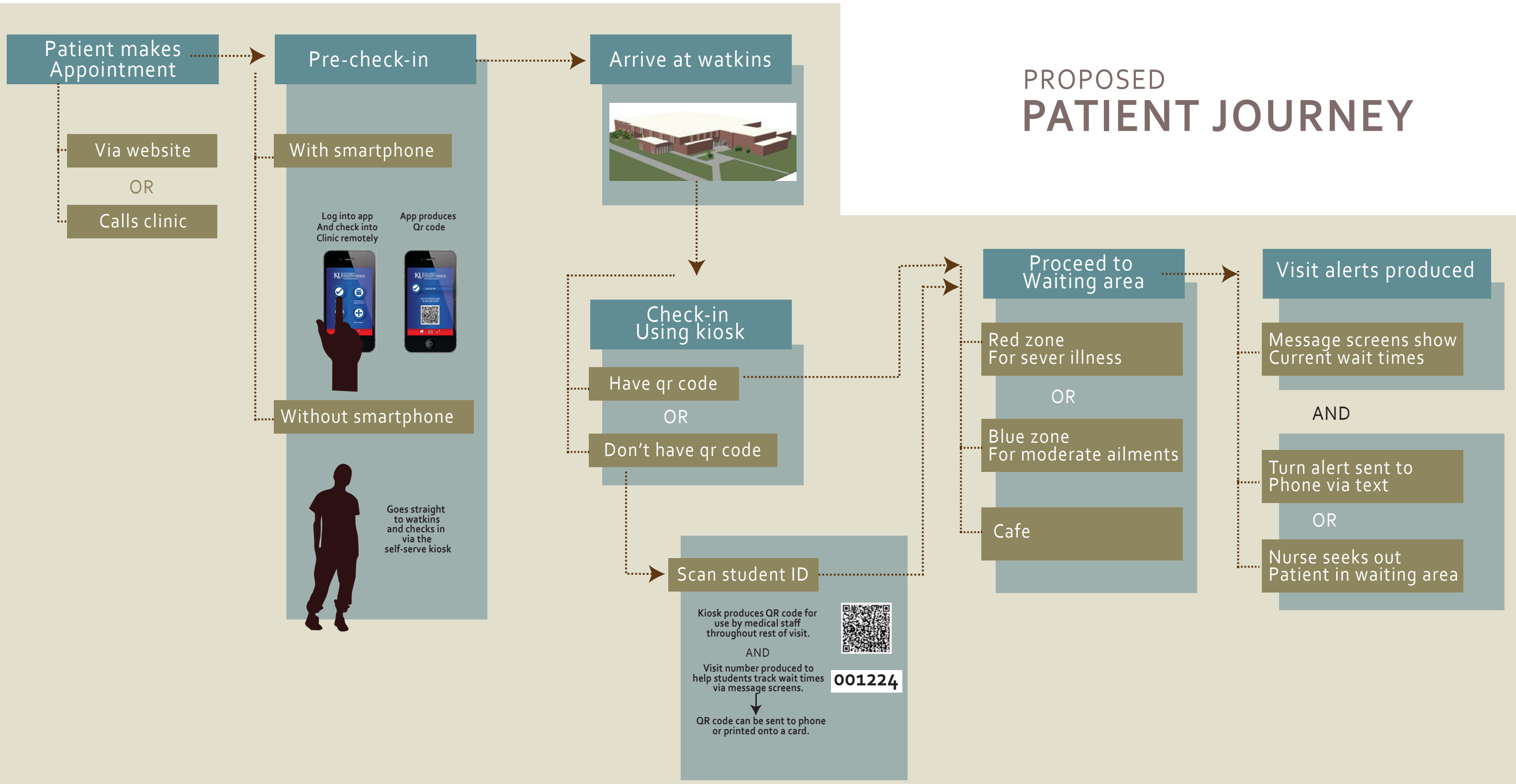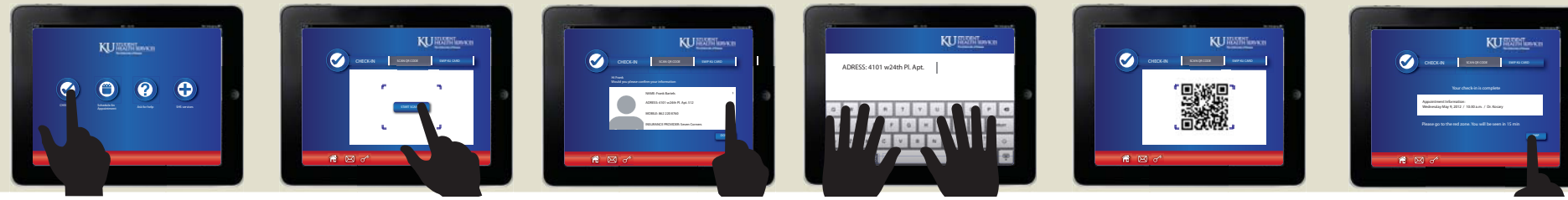Also provides the south end of campus with dining options.

PROPOSED
PATIENT JOURNEY

Patient makes Appointment
- Via website
- OR
- Calls clinic

Pre-check-in
- With smartphone

Log into app
And check into
Clinic remotely

App produces
Qr code

- Without smartphone

Goes straight
to watkins
and checks in
via the
self-serve kiosk

Arrive at watkins

Check-in Using kiosk
- Have qr code
- OR
- Don't have qr code

Scan student ID

Kiosk produces QR code for
use by medical staff
throughout rest of visit.

AND

Visit number produced to
help students track wait times
via message screens.

001224

QR code can be sent to phone
or printed onto a card.

Proceed to Waiting area
- Red zone For sever illness
- OR
- Blue zone For moderate ailments
- Cafe

Visit alerts produced
- Message screens show Current wait times

AND

- Turn alert sent to Phone via text
- OR
- Nurse seeks out Patient in waiting area

Interactions with the Check-in Kiosk Screen

Choose the service: Check-in, schedule appointment, Help, or more services.

swipe student ID

Confirming information *such as address, phone number, and insurance provider.*

Editing the information such as address, phone number, etc.

Kiosk produces QR code that can transfer to smartphone or be printed on a card for other users.

Check-in complete. Synchronizing information with the smartphone and guiding the patient to the next step: go to a waiting zone.

To reduce time waiting in lines and increase the privacy of personal information, the design team proposed a self-serve check-in kiosk. This system would allow students to check in with their student ID, then produce a QR code on their smartphone that nurses and doctors would then scan during the rest of the visit. If students do not have smart phones then the kiosk could print a card with a QR code on it to use throughout the visit.
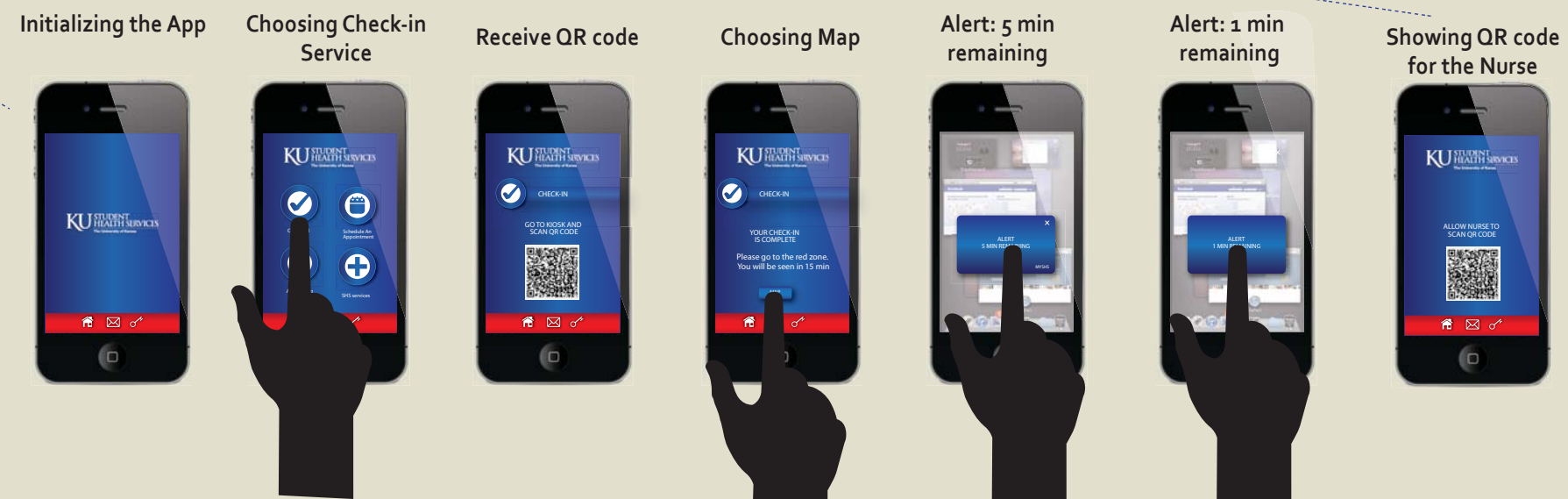
MOBILE TECHNOLOGY
CHECK-IN KIOSK

Choosing the service (Check-in, Schedule appointment, or more services)
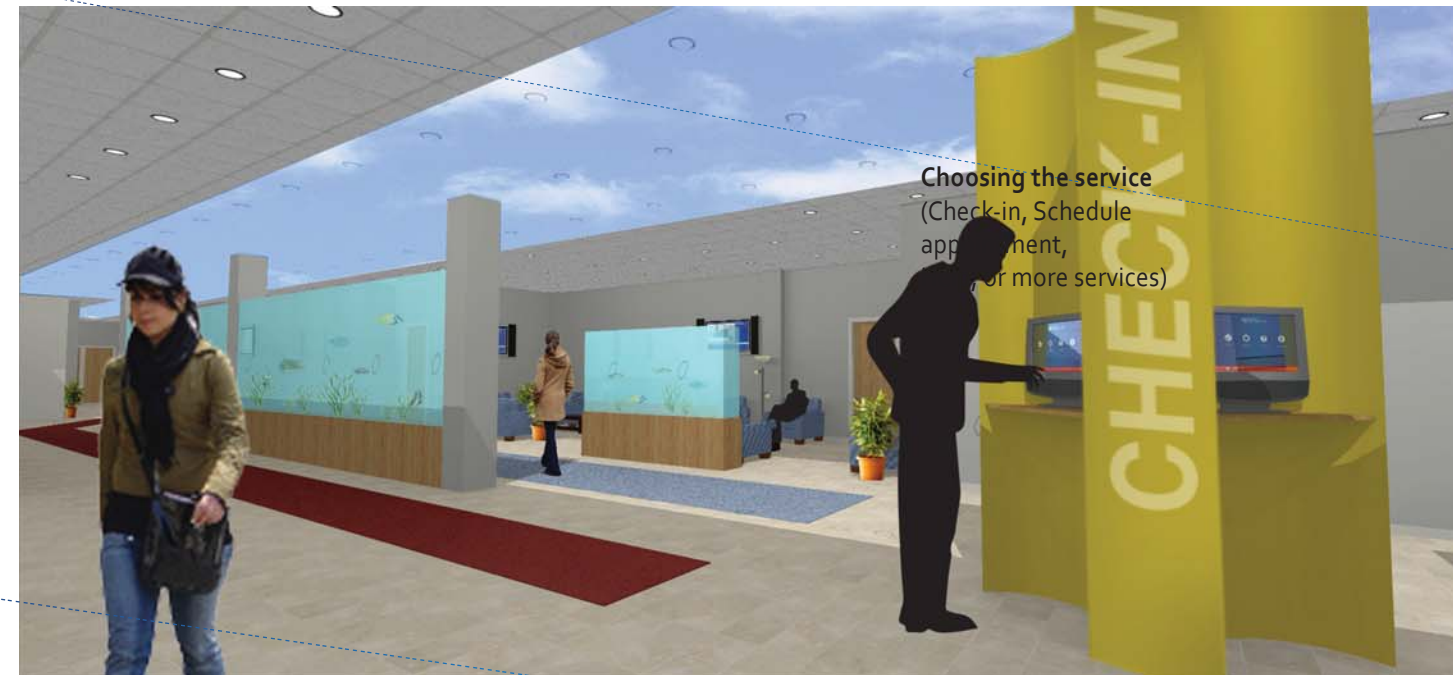
SMARTPHONE APP
MOBILE TECHNOLOGY

The design team thought the waiting experience could be a good space to integrate mobile technology. The phone and texting could be used as a paging system for patients, much like they use in restaurants. A time breakdown could show patients their current wait time in increments of 1-5 minutes and could alert the patient when the nurse is ready to see them.

Interactions with the Mobile App

Initializing the App

Choosing Check-in Service

Receive QR code

Choosing Map

Alert: 5 min remaining

Alert: 1 min remaining

Showing QR code for the Nurse

Designed for those patients who are not
severly ill, this seperate zone will help to
reduces the spread of germs, offers
comfortable seating, and also has spaces
for small groups.

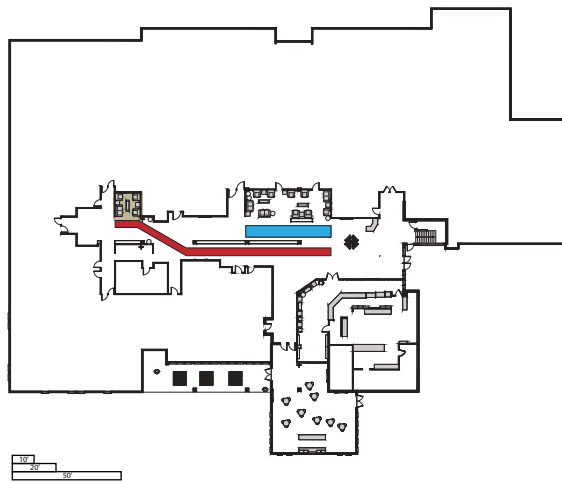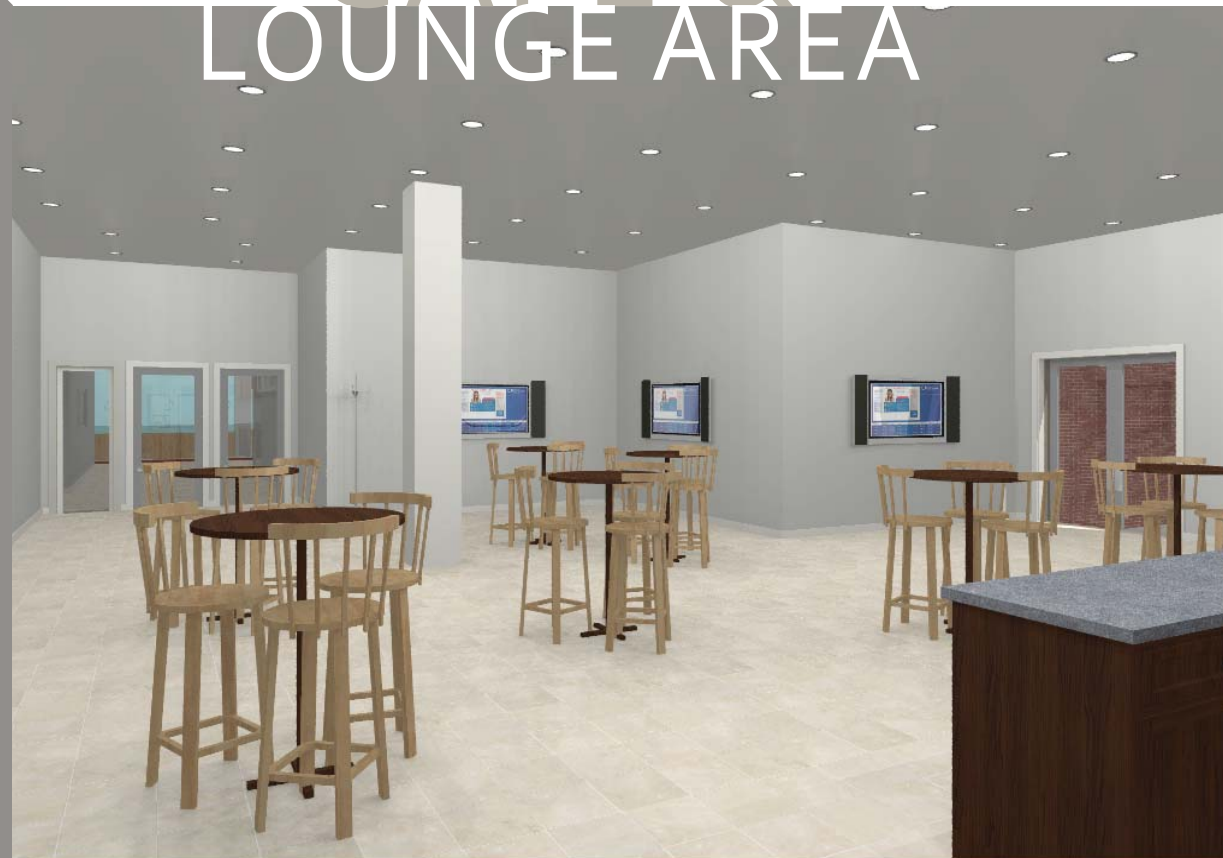Patients can choose to stay in this zone
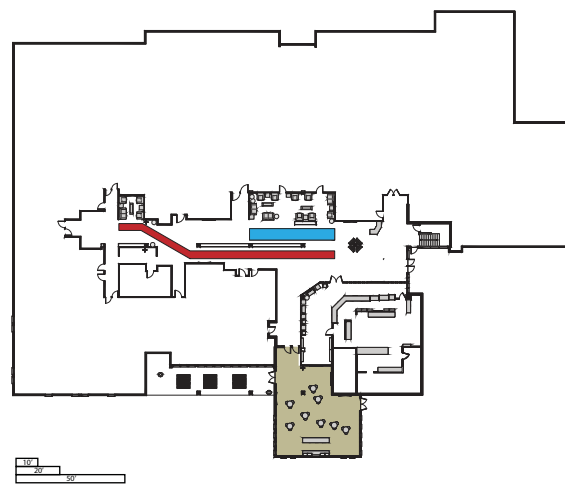or go to the cafe area.
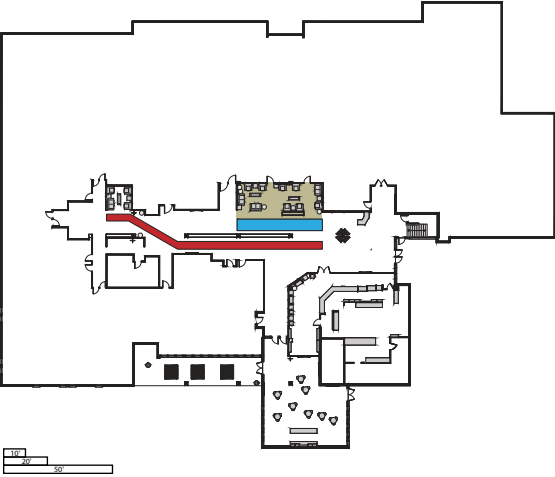
BLUE ZONE

RED ZONE

Designed for more severely ill patients, this zone will help to reduce the spread of germs, offers comfortable seating, and has single and couples seating available.

CAFÉ & LOUNGE AREA

Offers an alternative area for patient waiting.

Provides clinic staff and patients with food and drink options.

Offers staff an easy alternative to other fast food if they forget their lunch.

Provides patients with a comfortable place to pass the time as they wait to be called.

Helps to reduce stress.

Provides south end of campus with a much needed dining option addition.

Will offer hot meals, sweet treats, and healthy options such as coffee, tea, and smoothies.

The design team decided to incorporate the café adddition into the existing structure of Watkins Health Center because it provides patients with an alternative area to wait in, helps reduce stress, prevents boredom, and provides patients with healthy snack options.

Research shows that "people will experience the waiting as shorter when: 1. they have something to do while waiting..." (Faessen, 2008). The design team thought this could be accomplished by adding a café, a common college hangout spot, to the health center. A café could "give patients control with respect to their physical surroundings" (Faessen, 2008) when visiting the doctor. It would also "provide a positive distraction" (Faessen, 2008) by offering students drinks and healthy snacks while they wait for their appointment.

K. Wilson says in The Ecology of Waiting, "giving visitors a choice of how to pass the time, by providing a variety of amenities and distractions, helps reduce stress, boredom, and anxiety associated with the waiting process" (Wilson). A café would offer patients an alternative to a waiting room setting. Patients can grab coffee and come back to the waiting area to wait or remain in the café.

These ideas were then translated into a low-fidelity prototype Sketchup model. Students and staff were interviewed to see if they liked the idea of a café being attached to the health center's space.

The overall response was in favor for the addition. Research also showed that the café proved desireable to not only clinic visitors but the south end of campus overall. A nurse informed the design team that the "closest restaurant was about a 15 minute walk or drive."

Students and staff interviewed said they would like to have healthy choices available to reinforce the health-focused outlook of the clinic location. Some felt coffee would be good as they were leaving the facility but tea or a smoothie would be a better choice while waiting to see a doctor.

Another insight was that "some tests doctors run require fasting and after these tests it would be nice to have something to eat." The nurses of the facility requested, "Some unhealthy option as well such as chocolate because sometimes you just need a fix for a craving."
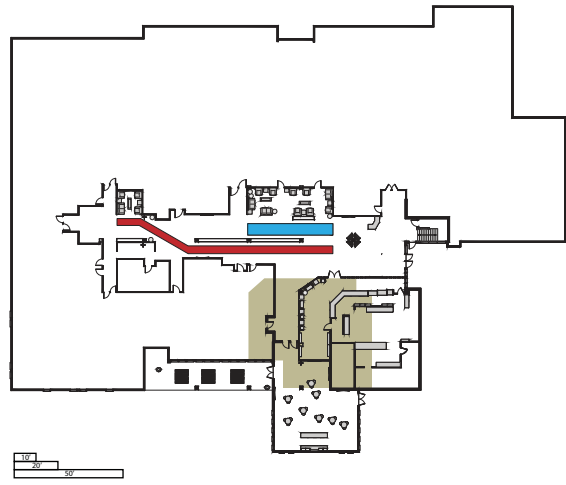
Designed to distinguish between those waiting for medication and those waiting to see a doctor.

PHARMACY
WAITING AREA