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# Breastfeeding Support

CS 6440  
Team PANDA

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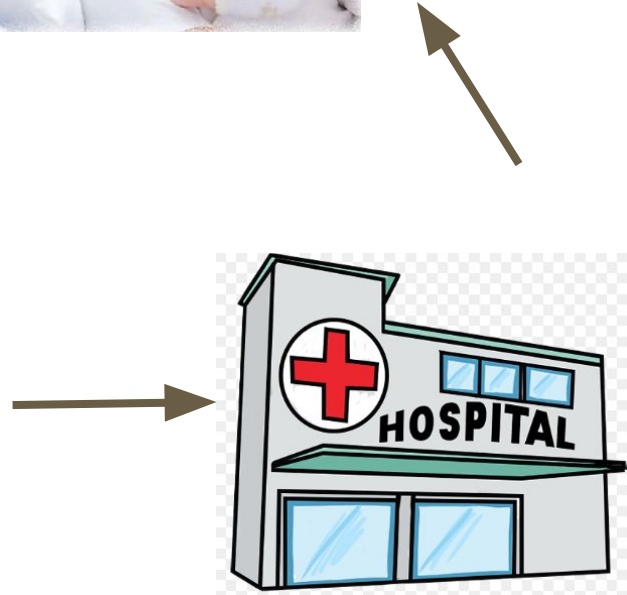
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# Outline

- Project Overview
- Application Framework and Languages
- Application Demo
- Future Work

# Project Overview

An information system application that supports breastfeeding and data exchange among mothers, doctors and Community Lactation Resources Systems.



# Application Framework and Languages



Frontend (Javascript jQuery)



IOS (Swift)



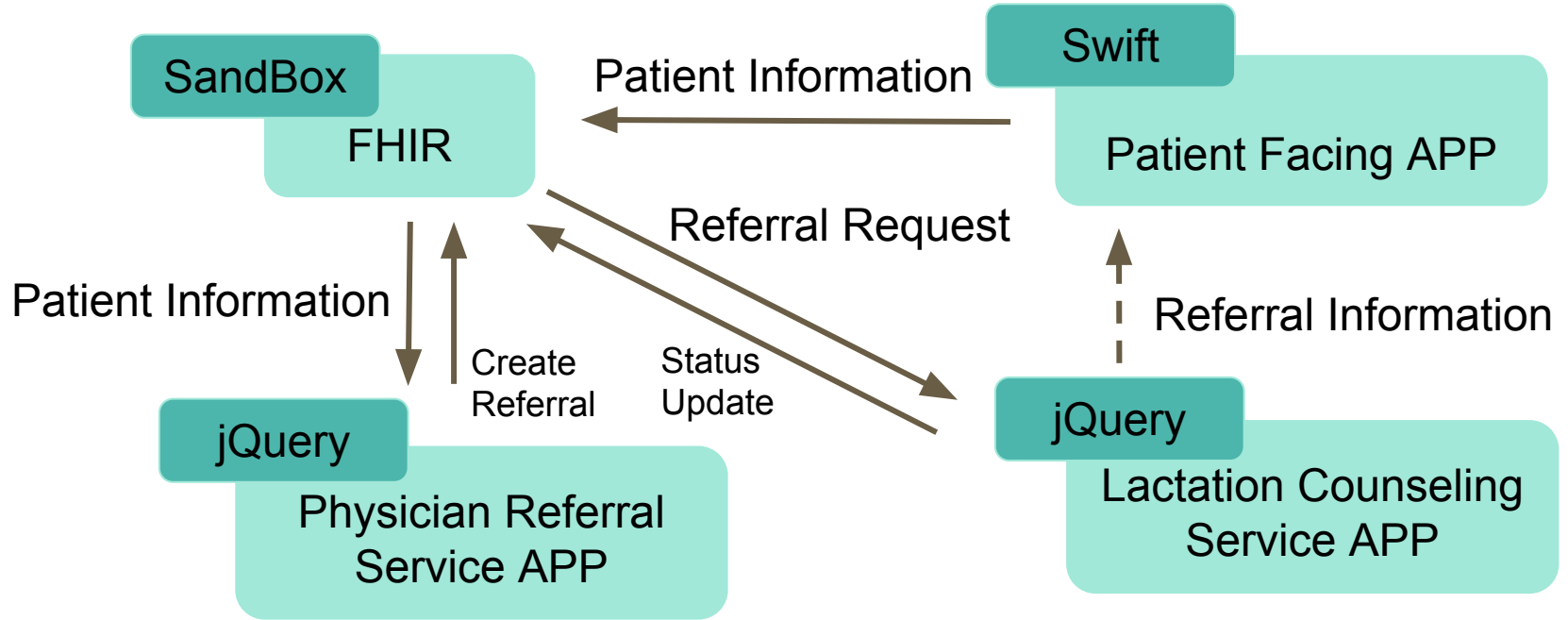
Bootstrap

Frontend (Bootstrap)

RESTful API  
GET PUT POST DELETE

Restful API

# Application Architecture



# Functionality Demonstration

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# Patient Facing App

- Record Breastfeeding Data
- View/Track Data Log
- Questionnaire Connects to FHIR

Carrier 10:33 PM

01:04

START STOP

Date 2017-04-24

Start Time 10:31 PM

Stop Time 10:32 PM

Duration 01 minute(s)

Diaper Poop ☒ Pee ☐

Breast Left 1st ☒ 2nd ☐

Breast Right 1st ☐ 2nd ☒

✓ SUBMIT

Record Log Me

Carrier 10:48 PM

< Back

Do you feel breastfeeding is going well so far? Do you have any concerns?

Yes ☐ No ☐

Concerns

Has your milk come in? (Between the 2nd and 4th postpartum days, did your breast get firm?)

Yes ☐ No ☐

Does your baby nurse approximately every two or three hours, with no more than one longer interval at night (up to 5 hours)?

Yes ☐ No ☐

Is your baby having bowel movements that look like yellow, seedy mustard?

Yes ☐ No ☐

Is your baby having at least six wet diapers a day?

Yes ☐ No ☐

Is your baby being fed any infant formula.

Record Log Me


# Physician Portal

- Patient Information Pull
- Review Questionnaire
- Filter Eligible Program by
  - Patient Location (City)
  - Type of Service Needed (Breastfeeding Related)
- Refer Patient to Program

Lactation Counseling Referral Portal

[Overview](#)  
[Record](#)  
[Questionnaire](#)  
[Education](#)

## Patient



Patient Name:  
Marla Dixon

**Gender:**  
female

**DOB:**  
1970-01-29

**Tel:**  
800-636-1334

**Email:**  
marla.dixon@gmail.com

Patient's Location: ☒ Breatfeeding Type: ☐

Eligible Program	Action
Structure House Weight Loss Program	<a href="#">refer</a>

Referral Program	Status
typetest2	approved



# Lactation Counseling Service Portal

- Patient Information Pull
- Receive Patient Referral
- Accept or Reject Patient Referral
- Record the Visit Log and Update the FHIR Database

The screenshot displays the Lactation Counseling Service Portal interface. On the left is a sidebar with the following navigation options: **Patient Care** (highlighted), New Request, **Accepted Request** (highlighted), Completed Request, and Rejected Request. The main content area shows a grid of patient referral cards. Each card contains the following information: Patient Referral ID, Patient Name (Maria Dixon), Gender (female), DOB, Tel (800-636-1334), Email (maria.dixon@gmail.com), and an Action button. The cards are arranged in two rows: the top row has four cards with IDs 173050, 172916, 173053, and 172781; the bottom row has one card with ID 173035. A 'Welcome User!' message is visible in the top right corner of the main area.

Patient Referral ID	Patient Name	Gender	DOB	Tel	Email	Action
173050	Maria Dixon	female	1970-01-29T05:00:00.000Z	800-636-1334	maria.dixon@gmail.com	Action
172916	Maria Dixon	female	1970-01-30	800-636-1334	maria.dixon@gmail.com	Action
173053	Maria Dixon	female	1970-01-29T05:00:00.000Z	800-636-1334	maria.dixon@gmail.com	Action
172781	Maria Dixon	female	1970-01-29T05:00:00.000Z	800-636-1334	maria.dixon@gmail.com	Action
173035	Maria Dixon	female	1970-01-29T05:00:00.000Z	800-636-1334	maria.dixon@gmail.com	Action

# Demo Video

<https://www.youtube.com/watch?v=rXSEc2uobAI>

# Future Work

- Blue Button Integration (Authentication)
- Build Independent User Account System (outside of FHIR)
- Lactation Library Function
- Warning Function in Physician Portal for Infant Weight Watch

# Gantt Chart

Start Date	End Date	Tasks	
2/13	2/20	Team Initialization	
2/20	2/25	Past Project Review	
2/20	3/6	Research on FHIR, JAVA Spring	
2/25	2/27	Platform Synchronization	
		<b>Social-service Facing Portal:</b>	
2/27	3/3	Feature: Integrate selected/filtered patient data as part of the referral request	FINISHED
2/27	3/13	Feature: Decline referral function	FINISHED
2/27	3/13	Feature: able to pull all active referral requests from FHIR and show on portal	FINISHED
3/6	3/14	Referral Loop: add a new tab to see all accepted referral requests and confirm if it's completed.	FINISHED
3/13	4/3	Feature: Retrieve patient information	FINISHED
2/27	4/24	UI Improvement	FINISHED
		<b>Physician Facing Portal:</b>	
3/14	4/24	UI Improvement	FINISHED
3/31	4/24	Feature: Enhanced filtering for program eligibility	FINISHED
4/10	4/24	Feature: Pull out patient data (demography, logdata, questionnaire)	FINISHED
		<b>Patient Facing Portal:</b>	
3/27	4/2	Patient Generated Breastfeeding Data Record and Collection	FINISHED
3/27	4/10	Patient Generated Data Log View	FINISHED
3/27	4/17	UI (Basic UI finished, such as stop watch)	FINISHED
3/27	4/10	Questionnaire	FINISHED
		<b>Presentations</b>	
2/14	2/14	Project Plan/Gant Chart	FINISHED
3/14	3/14	Project Technical Presentations	FINISHED
4/4	4/4	Project Progress Update	FINISHED
4/27	4/27	Final Project Presentations	FINISHED

# Questions?

