

AI DRIVEN CLINICAL INSIGHT PROGRAM

Using NLP and Data Analytics to Transform Women's Wellness Clinics
Kiara Jenkins & Parker Wallace - Hackathon Concept Presentation



THE CHALLENGE

- SOAP notes are time consuming to review
 - Physicians lack quick access to *summarized* patient history
 - Clinic underuse data that could guide better outcomes
- Goal: turn unstructured data into actionable insights



CONTEXT

- Women's Wellness clinics generate vast amounts of *narrative data*
- Manual review leads to inefficiency and missed/overlooked patterns
- Medical personnel are typically adverse to large changes and quick shifts

THE CONCEPT

An AI service that:

1. Summarizes patient SOAP notes automatically
2. Identifies similar diagnostic cases within the clinic

A Web survive that

1. Displays clinic and patient insights on a series of dashboards
2. Gives patients access to *their* data



TECHNICAL OVERVIEW

- Django REST API + local hosted NLP model trained on internal and open source data
- Patient data stored in structured JSON files for interoperability, compression, and safety
- Secure, HIPAA-compliant environment
- Modular dashboard with role-based access

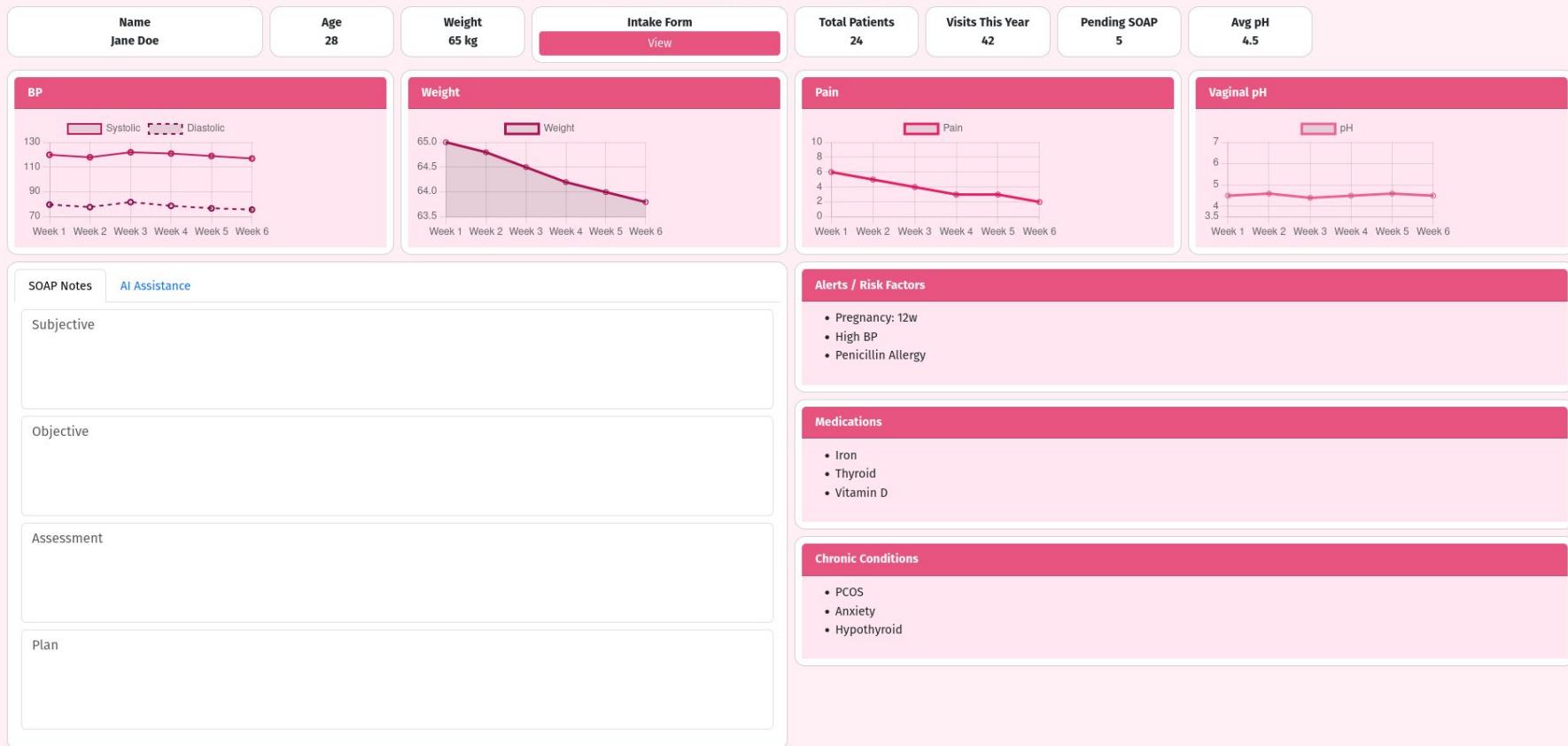


USE CASE #1: PHYSICIAN MODULE

Dr. Numen opens a patient chart with data from 2019-2025

- Patient statistical data is displayed in a series of **dashboards**
- AI generated a one page **summarization** of symptoms, diagnoses and treatments
 - *Based on intake forms, previous history, and similar cases within the clinic*
- ★ The relationship feels more **personal** as Nguyen is more familiar with the patient for her appt
- ★ Time is saved using aggregated and summarized relevant data
- ★ Risk of oversight or misdiagnosis is reduced

Women's Health Clinic Dashboard





USE CASE #2: PATIENT MODULE

Penelope wants to know more about the results from her appointment at the clinic

- Her information is **summarized** in a series of **dashboards**
 - Her most recent exercise recommendation, treatment, new medication information can be **viewed at a glance** as a helpful reminder.
- ★ Penelope feels more at ease and **in control** of her healthcare information
- ★ Time is saved as she can **access information** she would have called for otherwise
- ★ With results in hand, Penelope may do some of her own research with more informed data. Leading to more **patient autonomy**

Patient Dashboard

Name
Jane Doe

Age
28

Weight
65 kg

Recent Intake Form

[View PDF](#)

Blood Pressure



Weight



Pain Scale



Vaginal pH



Most Recent SOAP Note

Subjective: Patient reports mild cramping.

Objective: BP: 120/80, Weight: 65 kg, Pain: 3/10

Assessment: Routine check, no issues.

Plan: Continue current regimen, follow-up in 4 weeks.

Exercise Recommendations

- 30 min cardio, 5x/week
- Strength training 2x/week
- Daily stretching routine

New Medications

- Vitamin D supplement, daily
- Iron tablets, 3x/week

Clinic Contact Info

Women's Wellness Clinic

Phone: (555) 123-4567

Email: info@womenshealth.com

Address: 123 Health St, City, State

Export Dashboard to
PDF



USE CASE #3: ADMINISTRATION MODULE

Clinic director reviews anonymized data trends

- Clinic **metrics** are displayed in a series of dashboards and reports
- ★ Much valuable information can be gained from **generalized data**
- ★ Can assist in **operational management** by *analyzing trends*

Clinic Metrics Dashboard

Avg Visits / Day

25

New Patients / Month

18

Avg Wait Time (min)

12

Outstanding Intake Forms

5

No-Shows This Week



Visits Per Day (Last Week)

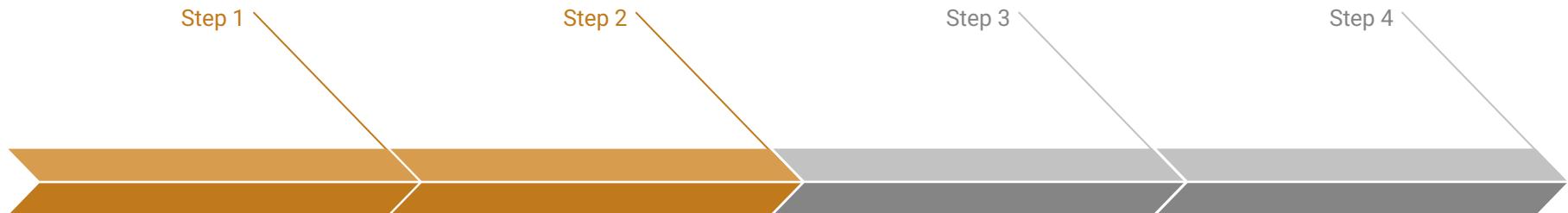


Staff on Duty / Clinic Team

- Dr. Emily Carter - MD, Obstetrics
- Nurse Olivia Smith - RN
- Dr. Sarah Johnson - MD, Gynecology
- Receptionist Mia Lee
- Medical Assistant Ava Brown



ROADMAP



Data Collection

Review existing patient data storage structure and implement transfer to structured json

Exploratory Data analysis

Prototype a model which accurately leverages patient data to provide clear and actionable results

System development

Create the frontend system with end user assistance for a smooth transition and ease of use

Modular Integration

Slowly integrate modularized systems into clinic workflow

Thank You!