Health AI Hackathon

School of AI---Team "The Novices"

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The problem:

*Women need to **accurately** journal ,**estimate** their NEXT **period,** in order to **manage** their health and family planning.*

-----"you can't manage what you don't measure"

Market Analysis

60 percent of smartphone users in the US using their devices to manage health.

Apps(Eve tracker, Flo) deployed in the market only provide a **brick and mortar tracking** system with limited **"prediction"** capabilities.
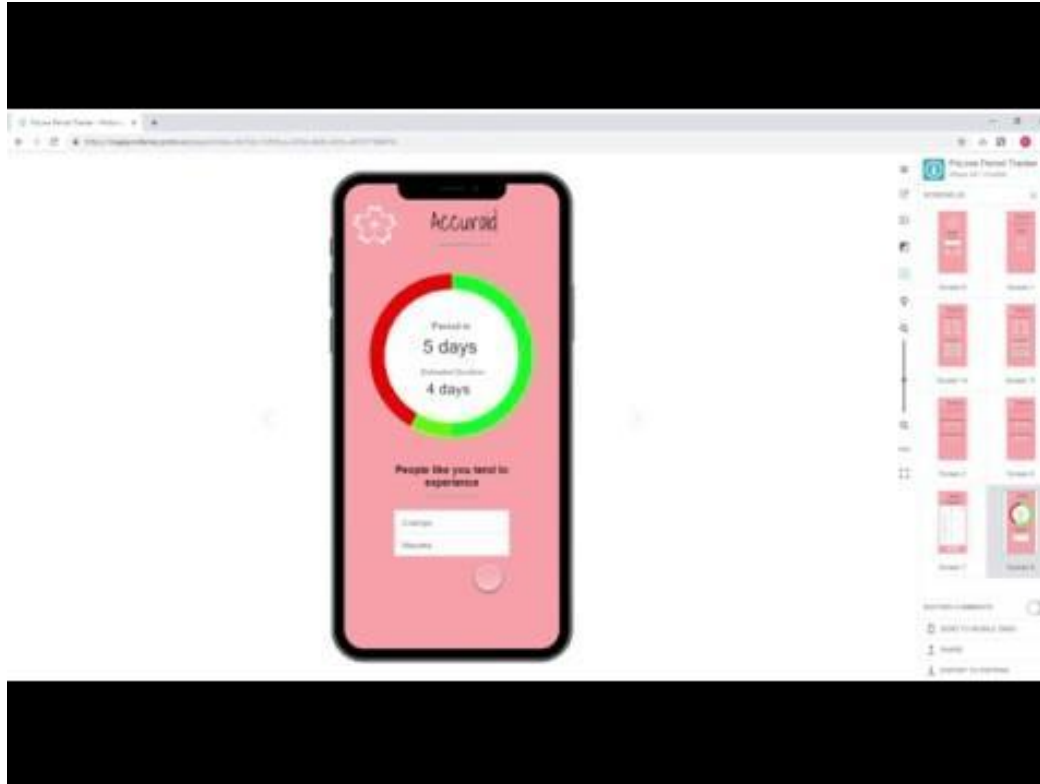
Proposed solution | Accuriod

Based on self evolving predictive algorithms
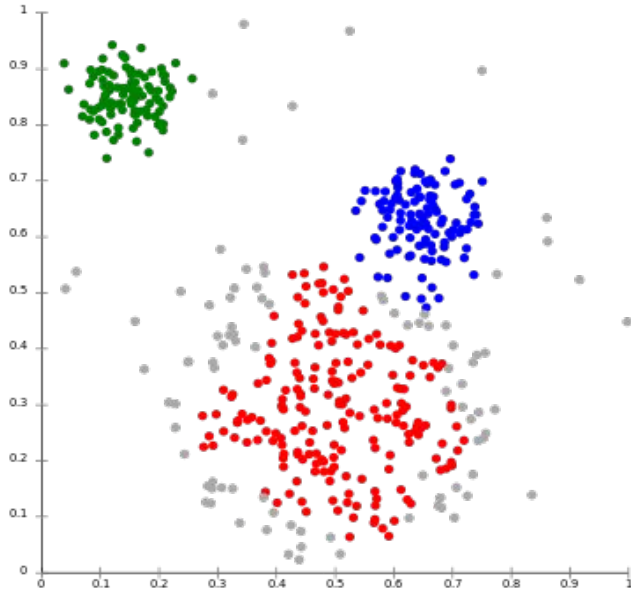
Accuroid are fed with real time user data

Accuroid

Accuroid | Uses a train and learn approach

1) **Learns** from user input/interaction,

2) **Compares** the user to **similar users**,

3) **Predicts cycles** and provides **symptom information**.

Predictor Model Structure

Steps:

1) Build **clusters** based on all users period length and cycle, (KMeans/DBSCAN),

2) **Predict** a user to a **cluster**, (Distance to centroid),

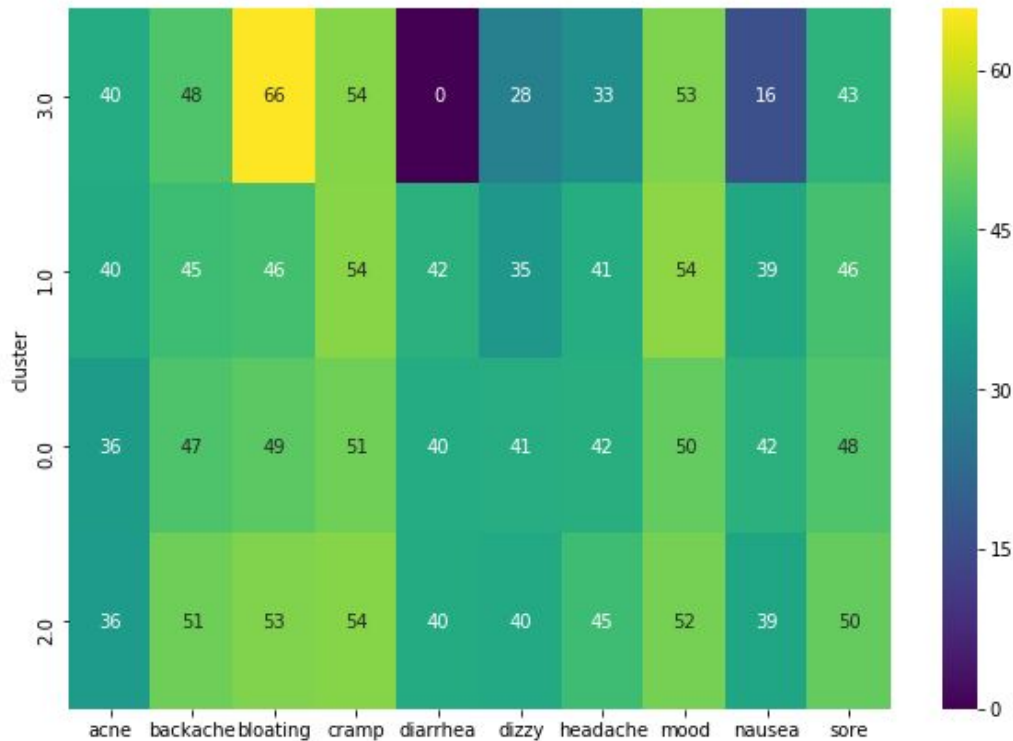3) **Inform and report** to user symptoms and period stats based on cluster data,

Data used | Self evolving model

The model will improves accuracy as it 'trains' on new user data.

Data issues / challenges encountered in our pilot test:

- Users do not report symptoms (incomplete data) ~ 4,690 obs. used from ~32k data points
- No demographic and physiological data to cluster users.
- User subjectivity when reporting symptoms

Data used | Sample symptom heatmap from cluster data

Y = clusters

X = Symptoms

values = severeness of symptom

cluster No.3 reported the largest cycle deviations

Impact on user Quality of Life

Positive impact:

- Help users **discover patterns**

PMS is coming up.

- Help **red flag ealy potential dangerous conditions**

- Contribute to **improve prediction** based on the impact of symptom severity on **cycle fluctuations**

- Make users feel more connected with their bodies

Final remarks

Snapshot | Business value proposition

PROBLEM
List your top 1-3 problems.

Need to **accurately estimate** and obtain relevant information about their **period**

EXISTING ALTERNATIVES
List how these problems are solved today.

Clue period tracking

SOLUTION
Outline a possible solution for each problem.

App built to enhance self evolving predictive algorithms that are fed with continuous user data

KEY METRICS
List the key numbers that tell you how your business is doing.

Prediction accuracy | Based on cross-validation test split

UNIQUE VALUE PROPOSITION
Single, clear, compelling message that states why you are different and worth paying attention.

Accuriod not only keeps track of symptoms but it also builds on community data, it is self evolving, and provides useful predictions based on user experience

HIGH-LEVEL CONCEPT
List your X for Y analogy e.g. YouTube = Flickr for videos.

Accuriod, learning with you, connecting you with your body.

UNFAIR ADVANTAGE
Something that cannot easily be bought or copied.

In the long run Accuriod will have an invaluable trained algorithm based of a continuously growing databank of community data

CHANNELS
List your path to customers (inbound or outbound).

IOS / Andriod app store, Social networks, Blogs, Online community

CUSTOMER SEGMENTS
List your target customers and users.

Women,

Age groups:
- 15 - 20
-20 -30
-30 -35
- 35+

At health risk or with symptoms (vulnerable group).

EARLY ADOPTERS
List the characteristics of your ideal customers.

Community engaged, sef-aware, techy, invests in its health and wellbeing

COST STRUCTURE
List your fixed and variable costs.

Fixed costs:
- App development:
a) Interface/Functional app
b) Algorithm and functional model
c) Payroll
d) Servers
e) Advertising for deployment
f) Legal, tax , etc. consulting
g) Office set up and rent

Variable costs:
- Sales costs
- Server incremental capacity
- App maintenance
- Incremental customer service

REVENUE STREAMS
List your sources of revenue.

Advertising
Sponsorships and strategic partnerships (pharma products related to symptoms)
Data driven insights from our data
Government grants and funds

Next steps

Improvements going forward:

Improve and test model accuracy with cross validation (test/train data)

- FDA certified as a method of contraception: 23 & ME gene classification, Planned Parenthood

- Data security through AWS

- group user behaviors and form relevant community