Project-1

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1 Project: Women Cycle Prediction

Context:

Women have monthly menstrual cycles, but in the midst of busy daily life, it's easy to forget these important dates. Additionally, the irregularity of menstrual cycles in many women makes it challenging to remember past dates accurately.

Objective:

I aim to create a user-friendly app that helps women track their menstrual cycles and ovulation accurately. I'll use data analysis and machine learning to make managing reproductive health easier.

Dataset:

The dataset contains a large dataset with 80 columns. I thoroughly cleaned the data to prepare it for analysis. Afterward, I created a web application that predicts menstrual cycle and ovulation days for women

Methodology:

To make predictions, I used decision trees. I focused on these important columns:

- **Length of Cycle:** This tells us how long a woman goes without her period.

- **Estimated Day of Ovulation:** It shows when an egg is ready for fertilization.

- **Length of Luteal Phase:** This is the time from ovulation to the day before menstruation.

- **First Day of High:** It marks the start of a woman's menstrual cycle.

- **Length of Menses:** It indicates the number of days of bleeding during the menstrual period.

Key Insights:

When I looked closely at the data, I found some important things:

- Most women have menstrual cycles lasting between 26 and 28 days.

- The majority of women ovulate between the 11th and 14th day of their cycle.

- Women usually have a luteal phase between the 10th and 15th day of their cycle.

- The first day of menstruation usually occurs between the 10th and 12th day.

- Most women experience a menstrual period lasting 4 to 5 days.