



IMMI Project Interim Presentation



Rosie, Barry, Charles



Reminder of Project Objectives

1. Cycle prediction based on user input
2. Prediction visualization on a calendar
3. Syncing with local calendar
4. Local data storage
5. User customization of the webpage and calendar in terms of appearance, notes, emojis, etc



Progress

Rosie

- Design a visually accessible information page.
- Research in how to store data locally
- Started looking into using similar design techniques for the data and diary page

Barry

- Develop the software framework
- Set template for Home, Diary, and Setting Page
- Research on LLM Prompting
- Started looking into how to sync local data with the calendar

Charles

- Fully comprehended IMMI's code
- Reimplemented prediction algorithm in Python
- Research into various alternative prediction algorithms and how methods of adaptation

文件 开始 插入 页面布局 公式 数据 审阅 视图 自动执行 开发工具 帮助

Visual Basic 宏 加载项 Excel COM 加载项 插入 设计模式 属性 查看代码 运行对话框 代码 加载项 控件 XML

timekeeping
date 02/12/2024
today
- +

memory
history 0 0 0 0 0 0
position 0
event_date 1900/1/0

operations
reset <-- resets memory
0 <-- day of cycle (1..n)
event

config
max_cycle_length
default_cycle_length
average_min
average_max
end_of_cycle_alert_days
regular_cycle_range_min
regular_cycle_range_max
fertile_window_start
fertile_window_end
beep_alert_on
beep_alert_off
average_window

A New Day Begins...

algo version 5

工程 - VBAProject

(通用) (声明)

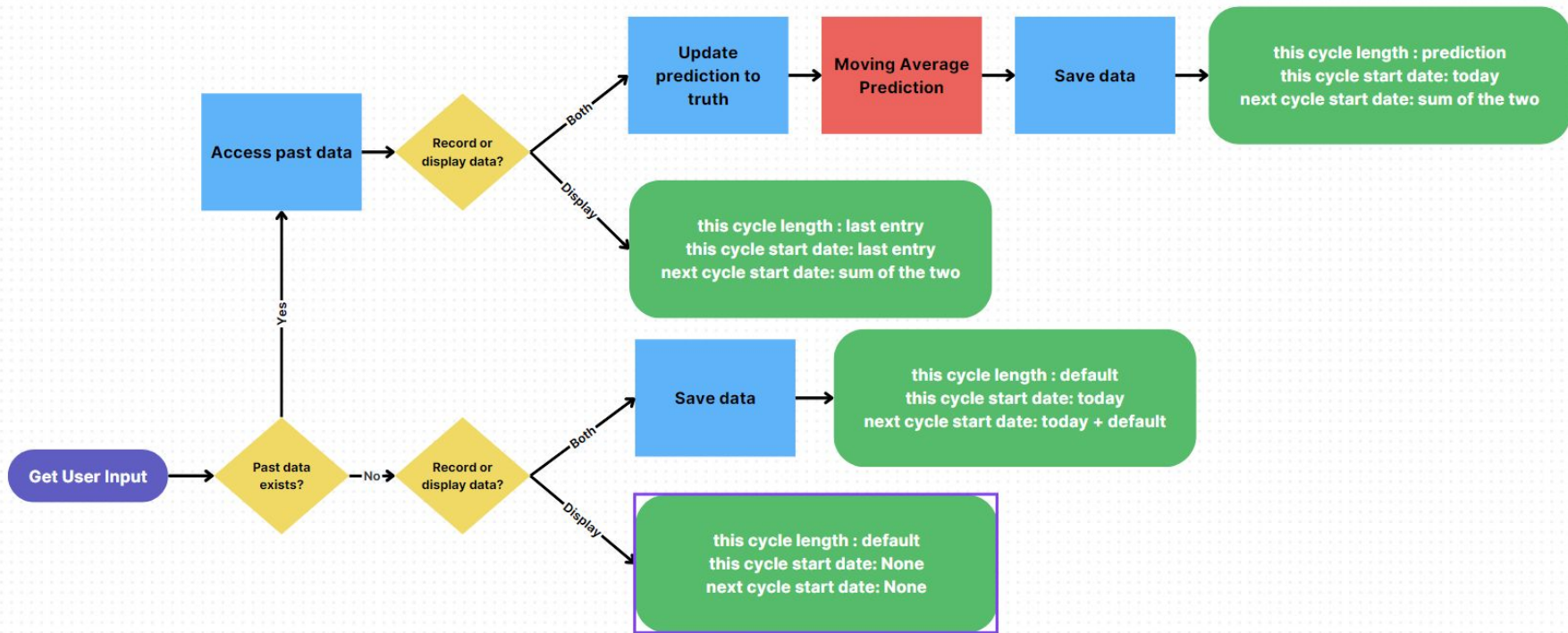
```
Dim max_cycle_length As Integer
Dim default_cycle_length As Integer
Dim average_min As Integer
Dim average_max As Integer
Dim end_of_cycle_alert_days As Integer
Dim regular_cycle_range_min As Integer
Dim regular_cycle_range_max As Integer
Dim fertile_window_start As Integer
Dim fertile_window_end As Integer
Dim beep_alert_on As Integer
Dim beep_alert_off As Integer
Dim average_window As Integer
```

Sub config_load()
max_cycle_length = Range("Q14").Value
default_cycle_length = Range("Q15").Value
average_min = Range("Q16").Value
average_max = Range("Q17").Value
end_of_cycle_alert_days = Range("Q18").Value
regular_cycle_range_min = Range("Q19").Value
regular_cycle_range_max = Range("Q20").Value
fertile_window_start = Range("Q21").Value
fertile_window_end = Range("Q22").Value
beep_alert_on = Range("Q23").Value
beep_alert_off = Range("Q24").Value
average_window = Range("Q25").Value
End Sub

Sub button_day_inc()
With Range("H8")
.NumberFormat = "dd/mm/yyyy"
.Value = Range("H8").Value + 1
End With
End Sub

Sub button_day_dec()
With Range("H8")
.NumberFormat = "dd/mm/yyyy"
If .Value > 1 Then .Value = .Value - 1
End With
End Sub

Sub button_day_now()
With Range("H8")

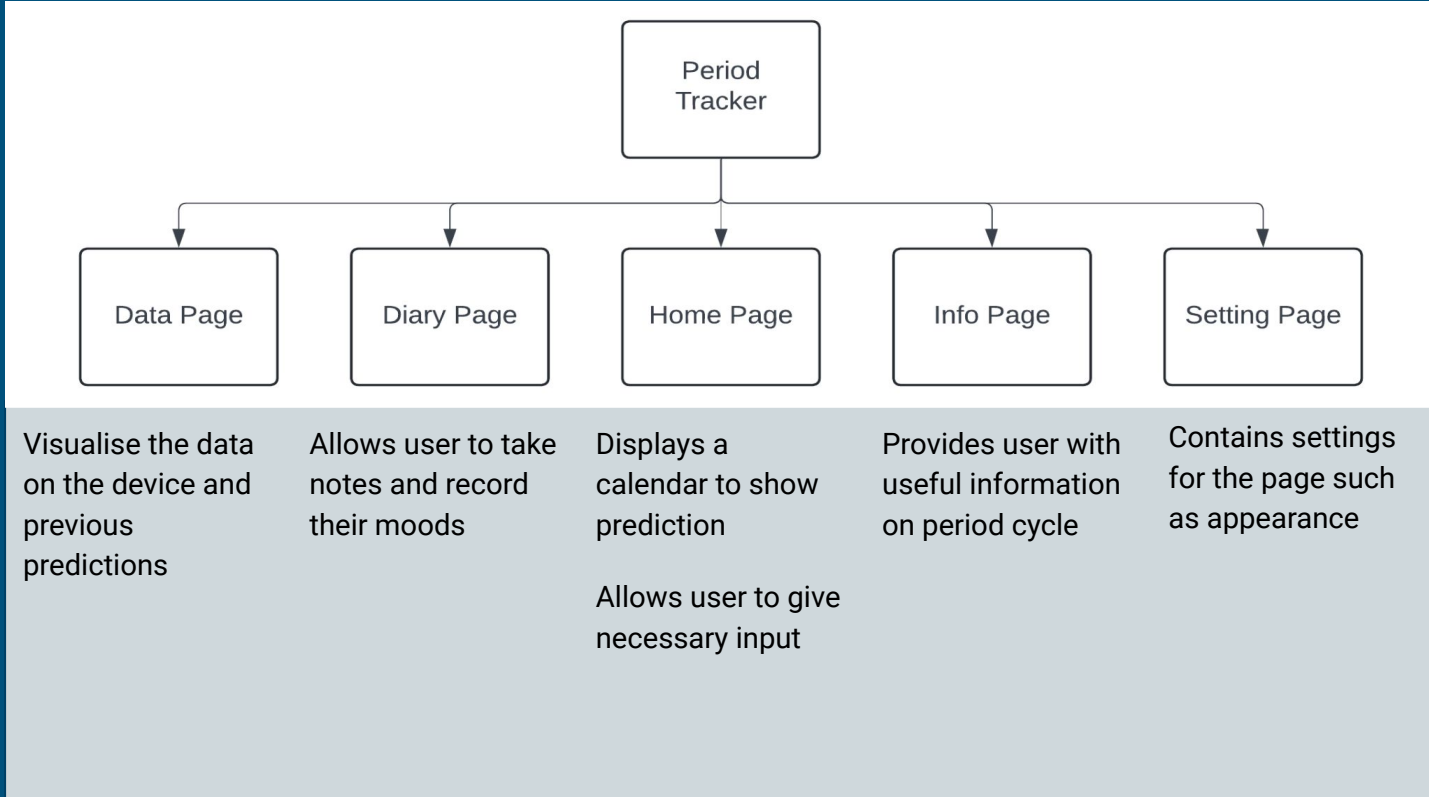


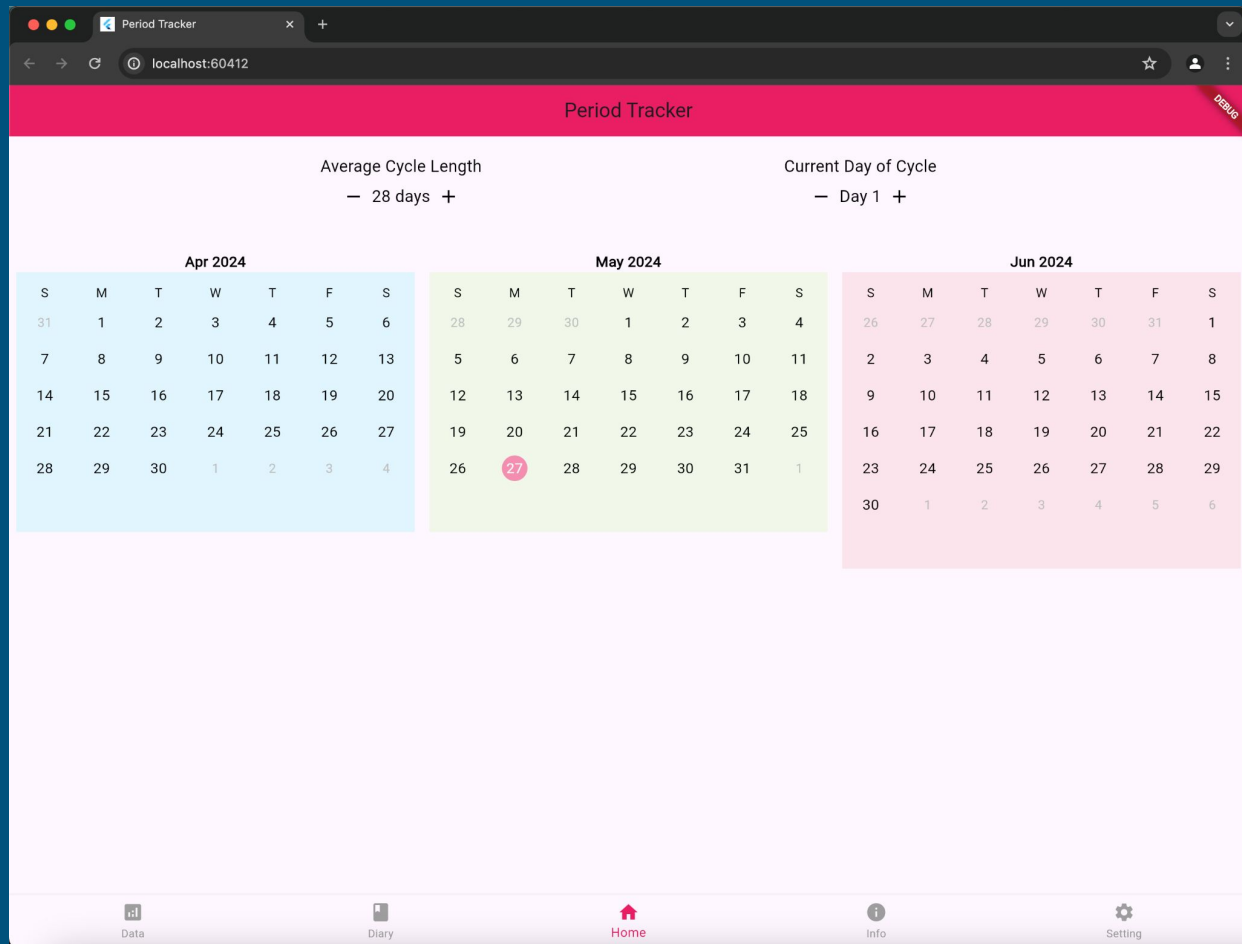
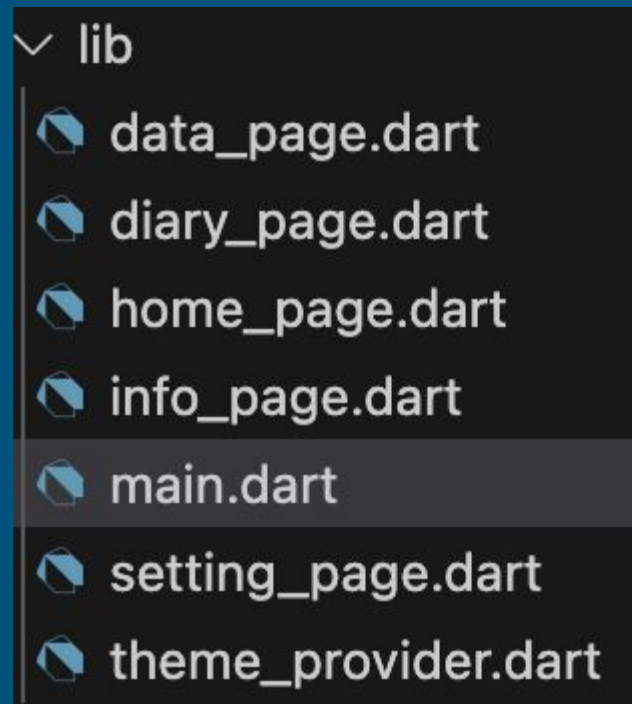
```
8 def predict_cycle_length(past_cycle_lengths: list, default: int, ma_window: int):
9
10     # Moving average prediction
11     if len(past_cycle_lengths) == 0:
12         return default
13     elif len(past_cycle_lengths) < ma_window:
14         return int(np.average(past_cycle_lengths))
15     else:
16         return int(np.average(past_cycle_lengths[-ma_window:]))
17
18
19 def main(args):
20
21     if args.reset:
22         reset(args.save_path, args.save_file_name)
23         return
24
25     current_date = datetime.datetime.today().date()           # Get current date
26     memory = get_past_data(args.save_path, args.save_file_name) # Get stored data
27
28     last_cycle_start = None
29     last_cycle_length = None
30     if len(memory['past_event_dates']) != 0:
31         last_cycle_start = memory['past_event_dates'][-1]
32         last_cycle_length = memory['past_cycle_lengths'][-1]
33
34     # First time use
35     if last_cycle_length is None or last_cycle_start is None:
36         # Display data and record event
37         if args.record_new_cycle:
38             this_cycle_start = (current_date + datetime.timedelta(days=-(args.day_of_cycle)))
```

```
1 # User Actions
2 record_new_cycle: 1 # 0 -> False/1 -> True
3 day_of_cycle: 1
4 reset: 0 # 0 -> False/1 -> True
5
6 # Model Params
7 max_cycle_length: 99
8 default_cycle_length: 28
9 average_min: 21
10 average_max: 39
11 end_of_cycle_alert_days: 3
12 regular_cycle_range_min: 26
13 regular_cycle_range_max: 32
14 fertile_window_start: 8
15 fertile_window_end: 19
16 beep_alert_on: 8
17 beep_alert_off: 20
18 average_window: 3
19
20 # Save Data
21 save_path: C:\flutter_dev\2024-IMMI\web_app\pr
22 save_file_name: cycle_data.txt
```

Name	Value
this cycle length	28
this cycle start date	2024/05/26
next cycle start date	2024/06/23

Framework





GPT Copilot Log

- Model: ChatGPT 4o
- Easy to start with
- GPT code sometimes getting errors
- LLM Hallucination is Inevitable
- Chain of Thought Prompting to be implemented for complicated tasks

I am designing a female period tracker web-based app using flutter. On the main homepage, I would like there to be a 3-month up-to-date calendar. Also, for everyday on the calendar, I want a function of taking notes. Would you please give me the flutter code for it? For any specific requirements, I will let you know later.

Sure! Below is a simplified version of a Flutter app that includes a 3-month up-to-date calendar on the homepage and allows users to take notes for each day. We'll use the `'table_calendar'` package for the calendar functionality and `'shared_preferences'` for storing the notes.

First, add the required dependencies to your `'pubspec.yaml'` file:

```
yaml
dependencies:
  flutter:
    sdk: flutter
  table_calendar: ^3.0.2
  shared_preferences: ^2.0.15
```

Then, create your main Flutter app:

```
dart
```

I have got two error messages: lib/main.dart:250:91: Error: Member not found: 'lightPink'.

```
      _buildCalendar(DateTime(_focusedDay.year,
        _focusedDay.month + 1, 1), Colors.lightPink.shade50),
        ^^^^^^^^^^^
lib/main.dart:278:53: Error: The getter 'DateFormat' isn't defined for
the class '_HomePageState'.
- '_HomePageState' is from 'package:test_drive/main.dart'
('lib/main.dart').
Try correcting the name to the name of an existing getter, or
defining a getter or field named 'DateFormat'.
      dowTextFormatter: (date, locale) =>
        DateFormat.E(locale).format(date).substring(0, 1),
        ^^^^^^^^^^^
```

Let me know which part of the code that I need to modify. You don't need to give me the full code

< 2/2 >

Sure, I'll provide the modifications needed to fix these errors.

1. Color `'lightPink'`:

- It seems that `Colors.lightPink` does not exist. We should use a predefined color or create a custom color.

Issues and Steps to Solution

Prediction algorithm development

1. Research into popular algorithms -> hard to implement in a short time frame
2. Develop a basic time series predictor -> time-consuming
3. Building based on IMMI's work instead of reinventing the wheel, reimplementation in a familiar language -> better code understanding and easier domain transfer

Framework Development

1. Develop an accessible software platform -> Need for a multi-platform development tool
2. Look into software development platform -> hard to learn within a limited timeframe
3. Develop the software framework in flutter, which is accessible on all platforms, with GPT Copilot -> Simplifies the initial development and later implementation

Issues and Steps to Solution

Software design

1. Look into different design methods including making the web pages scrollable -> time-consuming
2. Develop accessible and informative web pages -> time-consuming
3. Lots of helpful websites and youtube videos explaining how to implement these methods into the web design -> better understanding of the flutter code helping when looking at the other pages

Team Development

- Collaboration:
 - Repository management, code merging and formatting for easier maintenance, and keeping commits frequent and documented in case of error.
 - Better understanding of how individual strengths can be paired with tasks.
- Time Management
 - Include delays and rework into planning (e.g. IMMI does not respond immediately).
 - Identify tasks that can be completed in parallel.
 - Prioritize tasks that are associated with primary objectives and wider impact.

Individual Development

Rosie

- Learned dart.
- Learned how to better collaborate using git.
- Learned more software design techniques.

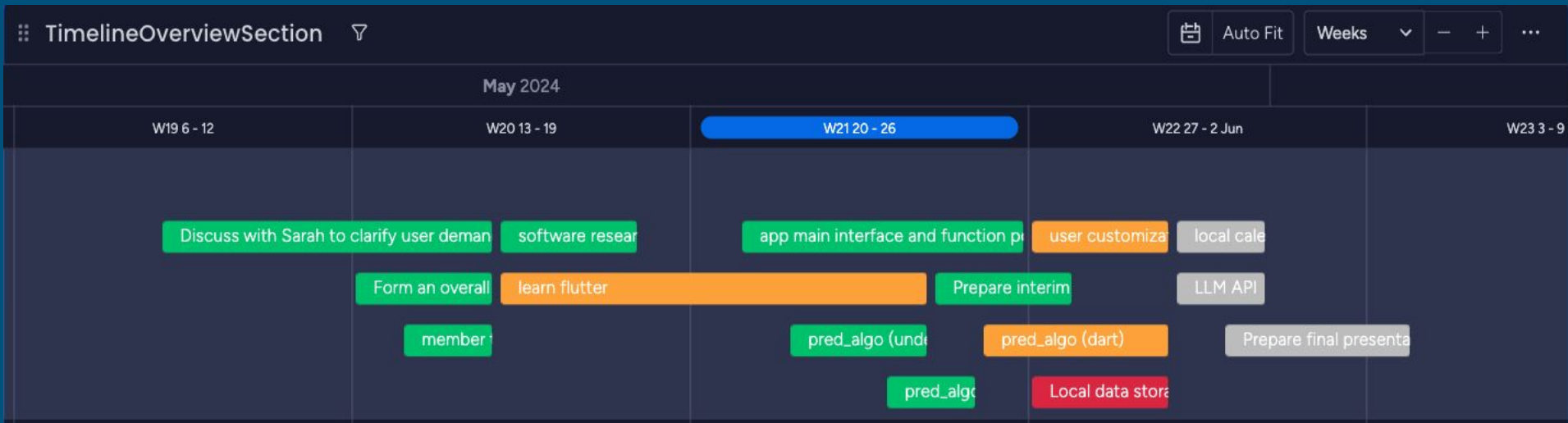
Barry

- Learned dart.
- Learned better prompting with LLM.
- More insights into UI design to enhance user comfort while using the app.

Charles

- Learned dart.
- Learned excel macro/VBA.
- More insights into coding from a user's perspective and how to consider all deviations.

Updated Timeline



To-do

	Task		Due date	Priority	Timeline	People	Status
<input type="checkbox"/>	Discuss with Sarah to clarif...	+	16 May	Low	9 - 15 May	All	Done
<input type="checkbox"/>	Form an overall project pro...	+	16 May	High	13 - 15 May	All	Done
<input type="checkbox"/>	member task assignment	+	17 May	Medium	14 - 15 May	All	Done
<input type="checkbox"/>	software research	+		Medium	16 - 18 May	All	Done
<input type="checkbox"/>	learn flutter	+		High	16 - 24 May	All	Working on it
<input type="checkbox"/>	app main interface and fun...	+		High	21 - 26 May	Barry	Done
<input type="checkbox"/>	pred_algo (understand IM...	+		High	22 - 24 May	Charles	Done
<input type="checkbox"/>	pred_algo (python version)	+		High	24 - 25 May	Charles	Done
<input type="checkbox"/>	Prepare interim presentation	+	27 May	High	25 - 27 May	All	Done
<input type="checkbox"/>	pred_algo (dart)	+		High	26 - 29 May	Charles	Working on it
<input type="checkbox"/>	user customization	+		Medium	27 - 29 May	Rosie	Working on it
<input type="checkbox"/>	Local data storage	+		Medium	27 - 29 May	Rosie	Stuck
<input type="checkbox"/>	local calender syncing	+		Low	30 - 31 May	Charles	
<input type="checkbox"/>	LLM API	+		Low	30 - 31 May	Barry	
<input type="checkbox"/>	Prepare final presentations	+	3 Jun	High	31 May - 3 Jun	All	

Prototype Demo

1. Cycle prediction based on user input
2. Prediction visualization on a calendar
3. Syncing with local calendar
4. Local data storage
5. User customization of the webpage and calendar in terms of appearance, notes, emojis, etc