



HistoWeather

MSE - Final Presentation

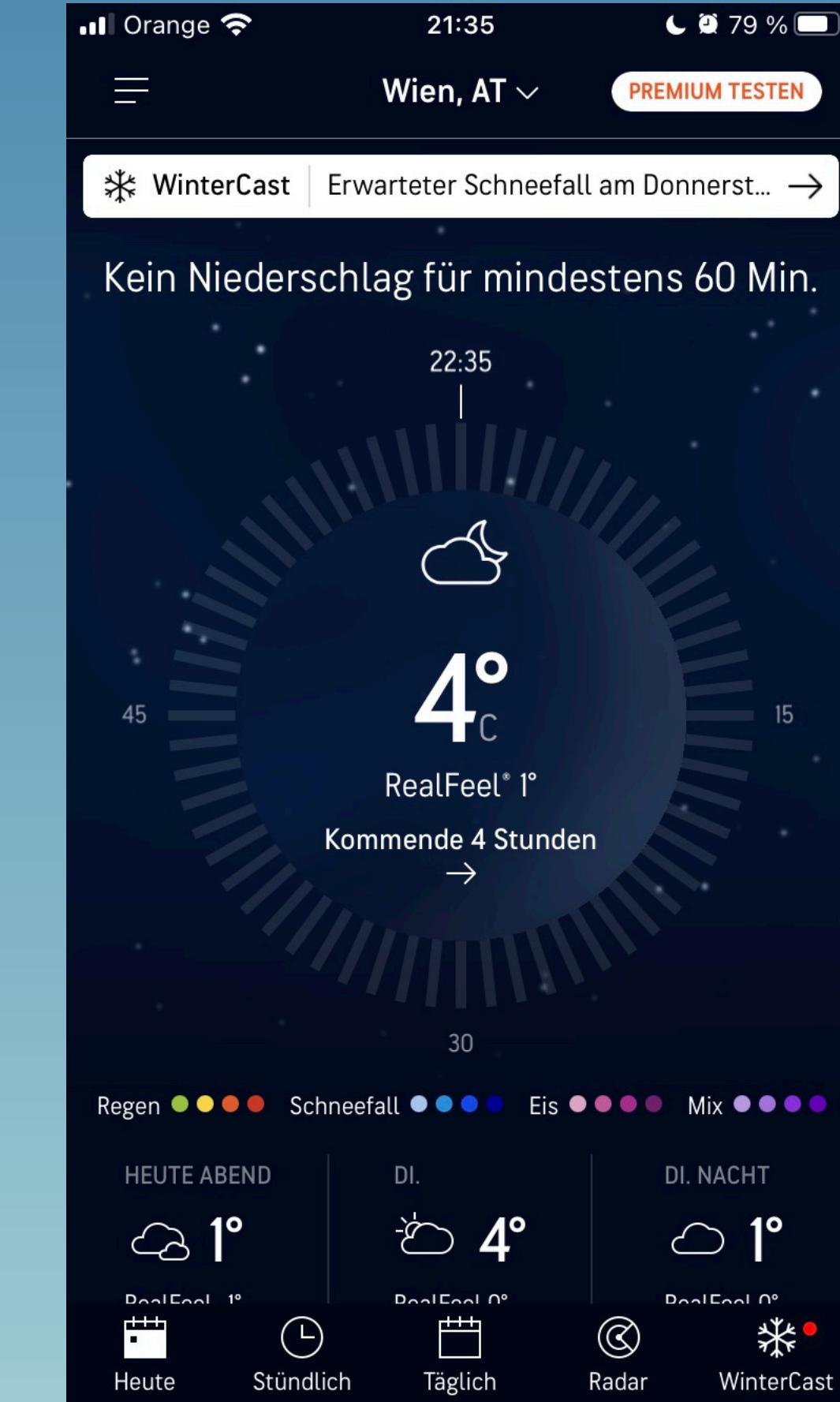
Problem

Our everyday weather apps mostly have the same functionality:

- current weather conditions (temperature, wind direction & wind speed, rain)
- predictions for the upcoming days



Problem



Problem

**What if there's an app that shows us
how the weather was in our past?**

Solution

- Historical Weather API by open-meteo.com
- offers historical weather data dating back to 1959
- provides hourly and daily weather data between two dates



<https://open-meteo.com/en/docs/historical-weather-api>

Solution

- We designed and developed the app **HistoWeather**
- it connects with Open Meteo's API and lets the user explore weather data from the past
- It also has the usual features like showing current weather and forecast



Solution

The image displays four iPhone screens showing a weather application interface. The screens are arranged horizontally against a yellow background.

- Screen 1 (Vienna):** Shows the current weather for Vienna, Austria. The temperature is 6 °C, with a high of 6 °C and a low of 2 °C. It's currently cloudy with sun. Precipitation is 1.4 mm, wind speed is 5.1 km/h, sunrise is at 7:40 AM, and sunset is at 4:24 PM. The date is Jan 11, 2023, at 5:00 PM.
- Screen 2 (London):** Shows a weekly forecast for London, United Kingdom. The days from Tuesday to Sunday are listed with their respective icons and temperatures:
 - Tuesday: -2 / 2 °C
 - Wednesday: 7 / 12 °C
 - Thursday: 7 / 12 °C
 - Friday: 6 / 9 °C
 - Saturday: 6 / 11 °C
 - Sunday: 3 / 6 °C
 - Monday: -0 / 4 °C
- Screen 3 (London):** Shows a detailed graph for London comparing temperature data from January 2, 1959, (blue line) and January 4, 2023, (green line). The graph shows temperature fluctuations over a 24-hour period, with a significant dip around 12 PM on both dates.
- Screen 4 (London):** Shows the current weather for London, United Kingdom, on January 5, 2023, at 5:00 PM. The temperature is 11 °C, with a high of 11 °C and a low of 11 °C. It's currently cloudy with sun. The date is Jan 5, 2023, at 5:00 PM.

The bottom navigation bar for each screen includes five icons: Today, Forecast, Graph, Slider, and Search.

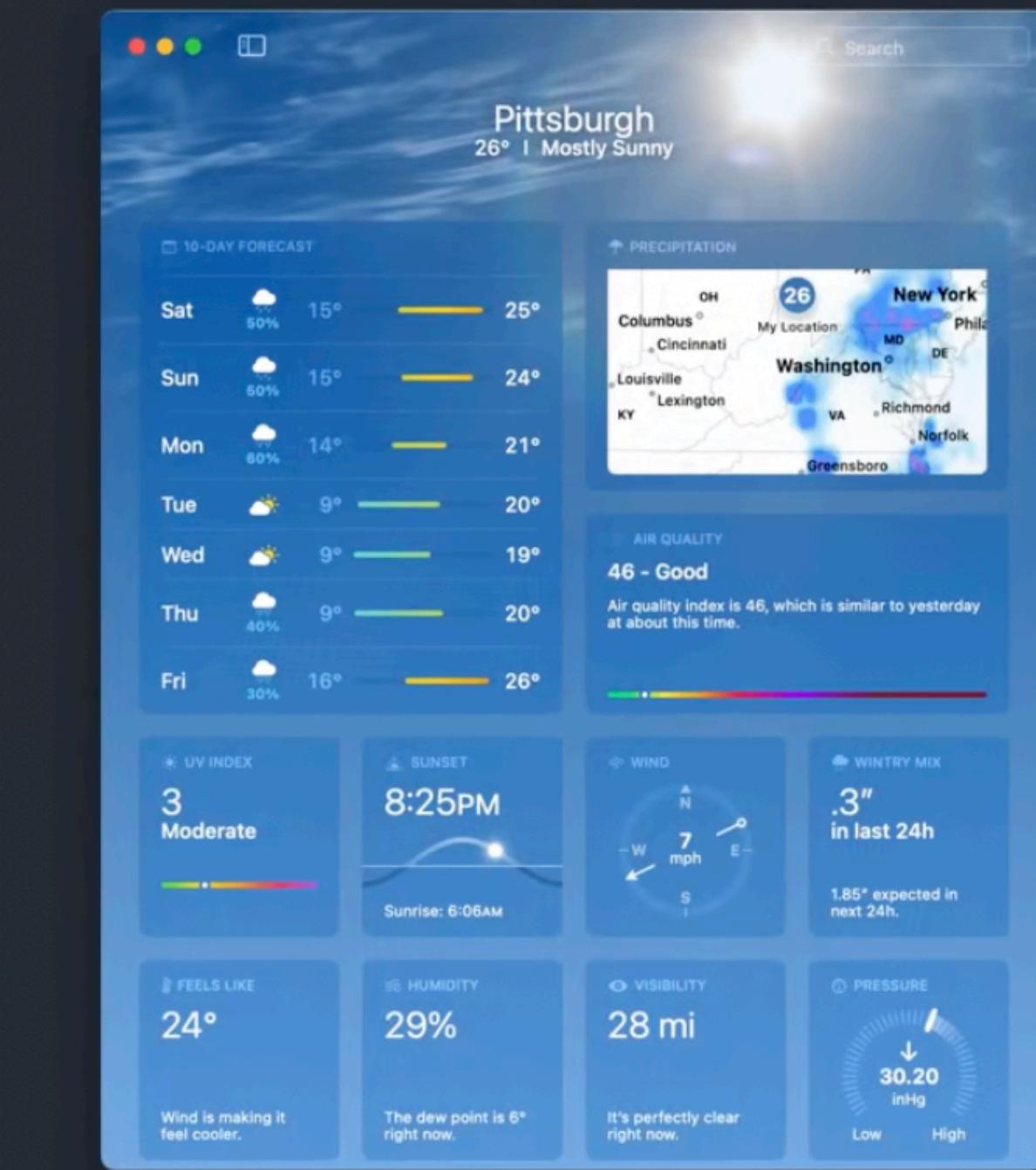
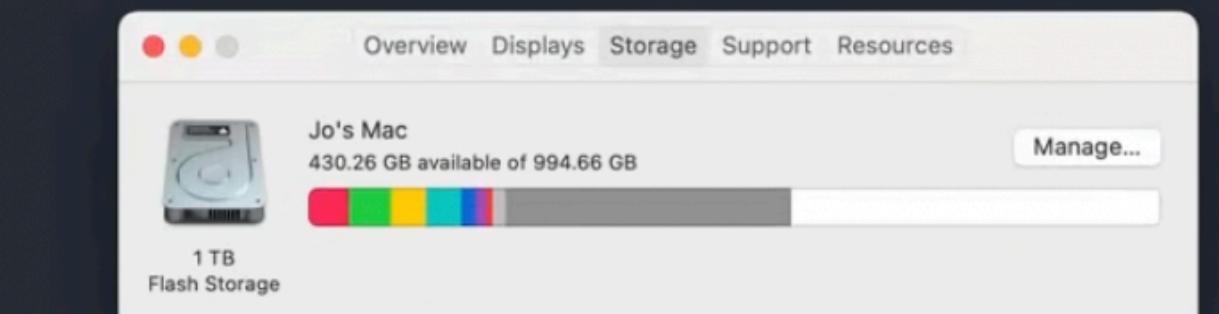
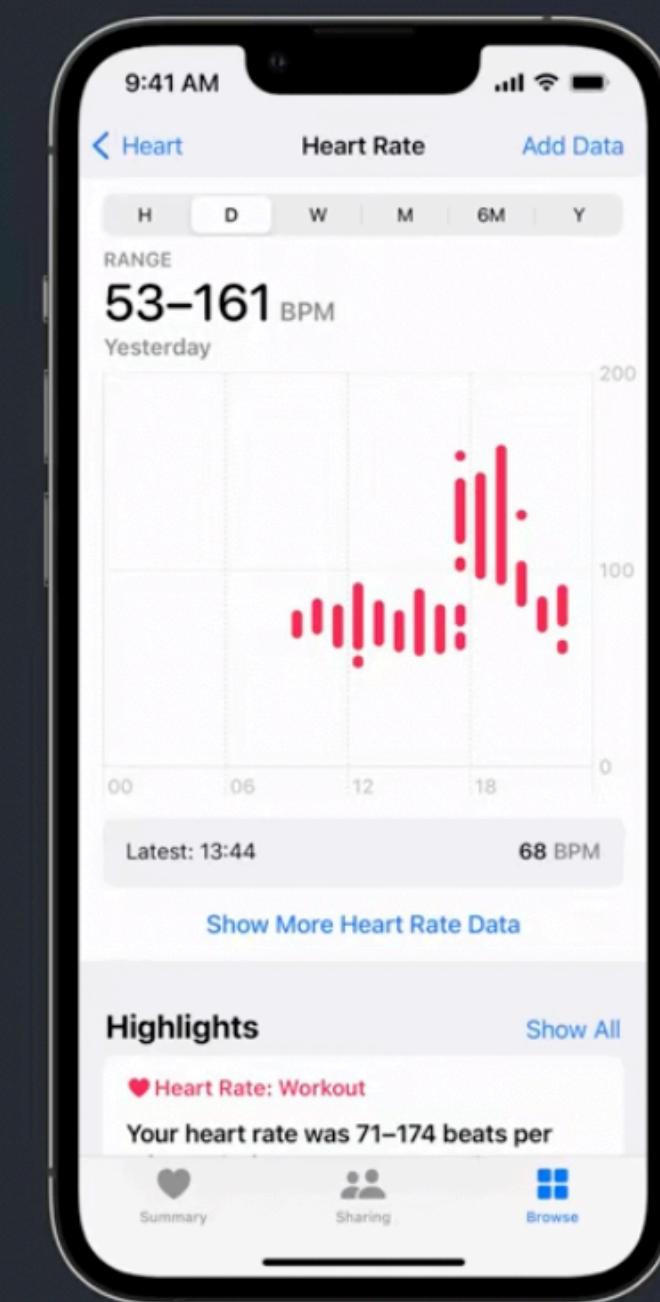
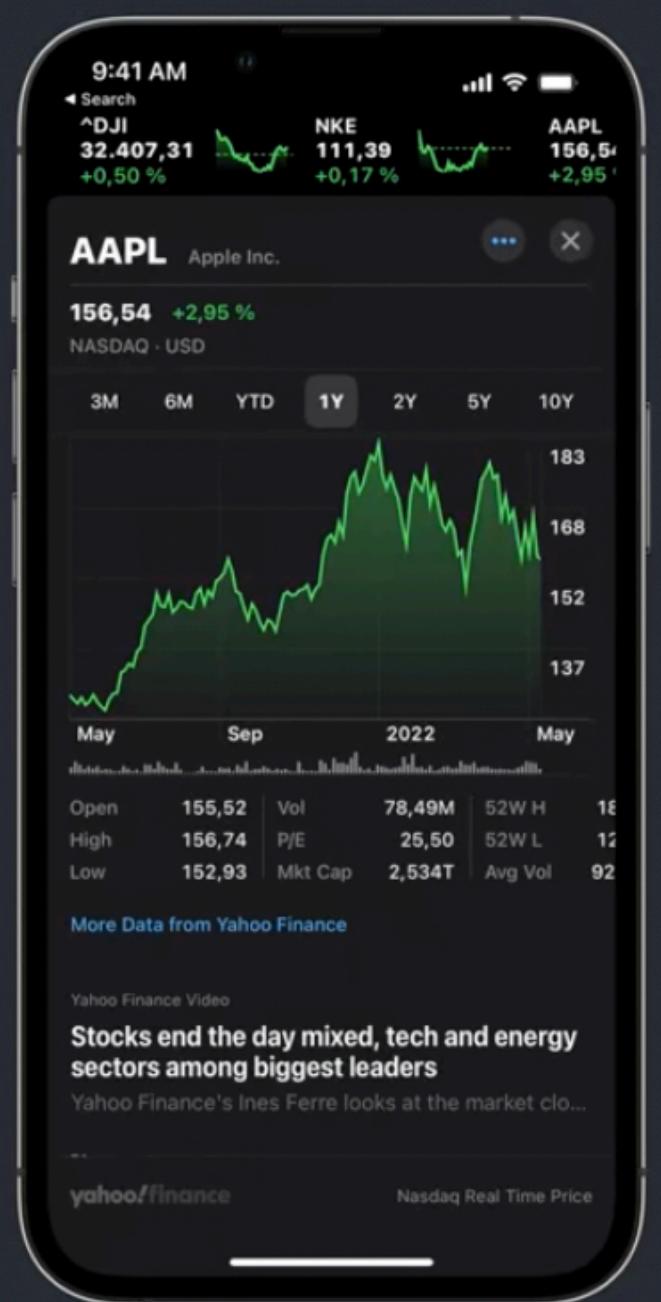
Demo



Dev Insights

- We used the new Charts framework by SwiftUI:
<https://developer.apple.com/documentation/charts>
- Makes data visualization in your apps easier to implement
- without any third-party library
- variety of chart styles (bar charts, line charts and many more ...)

```
Chart(lineGraphData) {  
    LineMark(  
        x: .value("hours", $0.time),  
        y: .value("temperature", $0.temperature)  
    )  
    .foregroundStyle(by: .value("Day", $0.day))  
}
```



Thank you