What's a JSON file?

ICH Code Club

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Outline of the session

1. Some background
    - About me
    - About my research
    - Why I care about JSON files
2. An overview of JSON files
    - What is JSON?
    - Why do we use it?
    - How does it work?
3. A worked example using JSON data from the internet

Some background

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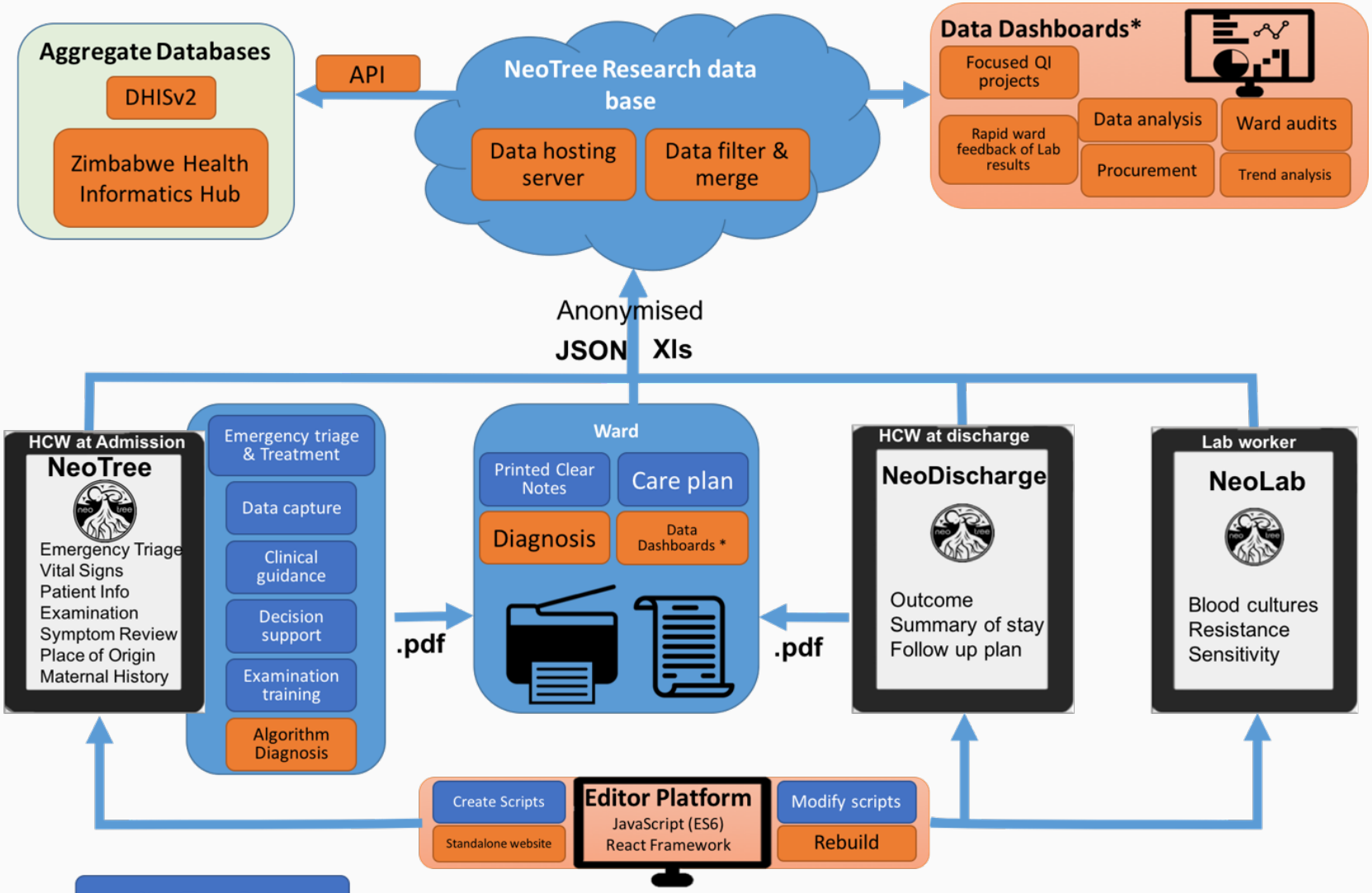
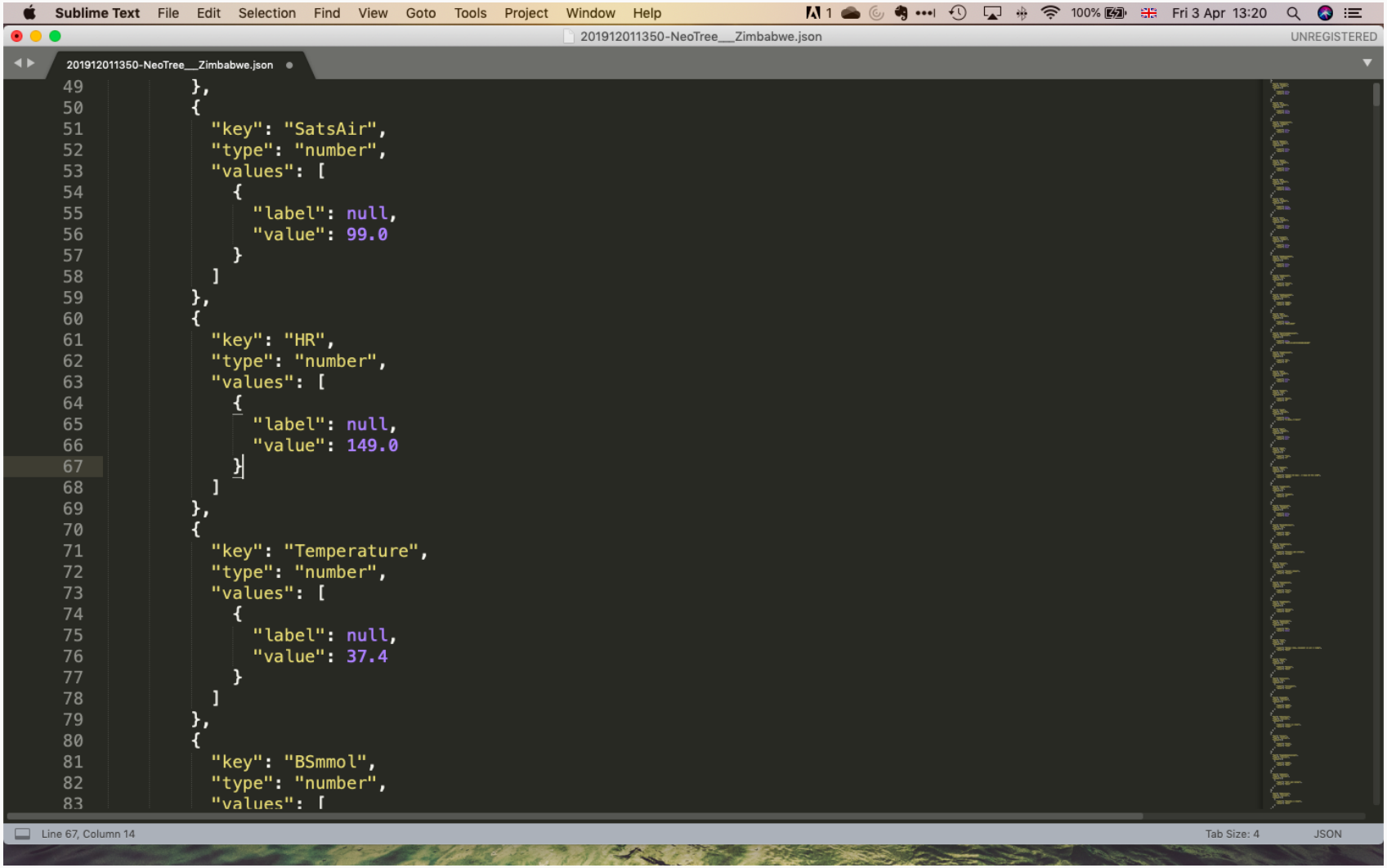


JSON: JavaScript **Object** Notation; minimal, readable format for data structure and transfer

Some background



What is JSON?

- **J**ava**S**cript **O**bject **N**otation
- A *data representation* format
- A “universal language” of data

Why bother with JSON files?

- It's commonly used (that's why I bother!)
- It's lightweight
- It integrates well
- It's easily readable and writable (as we'll see. . .)

What does JSON look like?

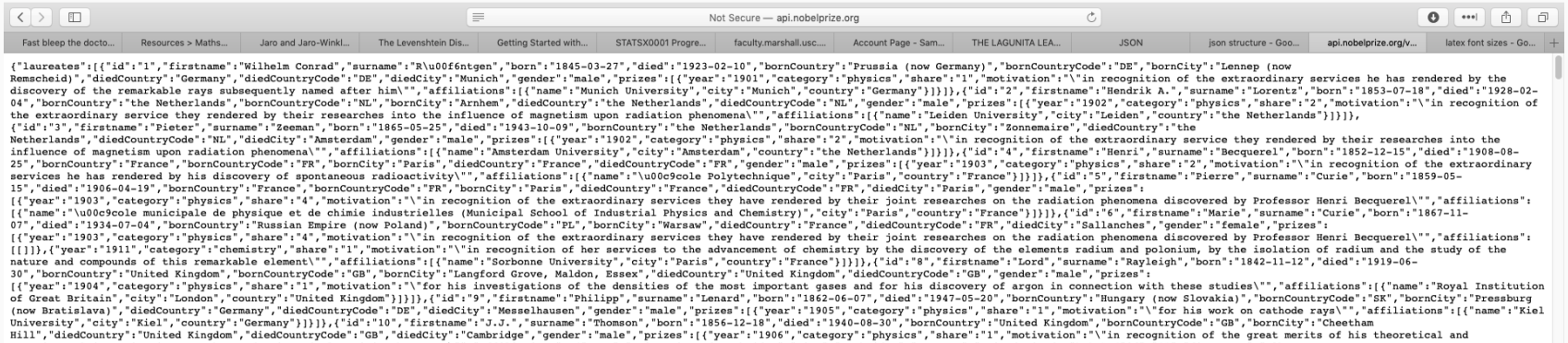
```
{
  "key": "value",
  "key": "value",
  "key": "value",
  ...
}
```

A simple example

```
{
  "title": "What's a JSON file?",
  "event": "ICH Code Club",
  "date": "08 April 2020",
  "meetingNumber": 6,
  "isInteresting": true,
  "topics": ["JSON files", "Data science", "R"],
  "presenter": {
    "firstName": "Sam",
    "lastName": "Neal",
    "age": 24,
    "isDataScientist": false
  }
}
```

My example in XML

```
<?xml version="1.0" encoding="UTF-8"?>
<root>
  <title>What's a JSON file?</title>
  <event>ICH Code Club</event>
  <date>08 April 2020</date>
  <meetingNumber>6</meetingNumber>
  <isInteresting>true</isInteresting>
  <topics>
    <element>JSON files</element>
    <element>Data science</element>
    <element>R</element>
  </topics>
  <presenter>
    <age>24</age>
    <firstName>Sam</firstName>
    <isDataScientist>false</isDataScientist>
    <lastName>Neal</lastName>
  </presenter>
</root>
```

An example with Nobel laureate JSON data

http://api.nobelprize.org/v1/laureate.json