Web Framework Tutorial 03

React + D3

Danqing Shi

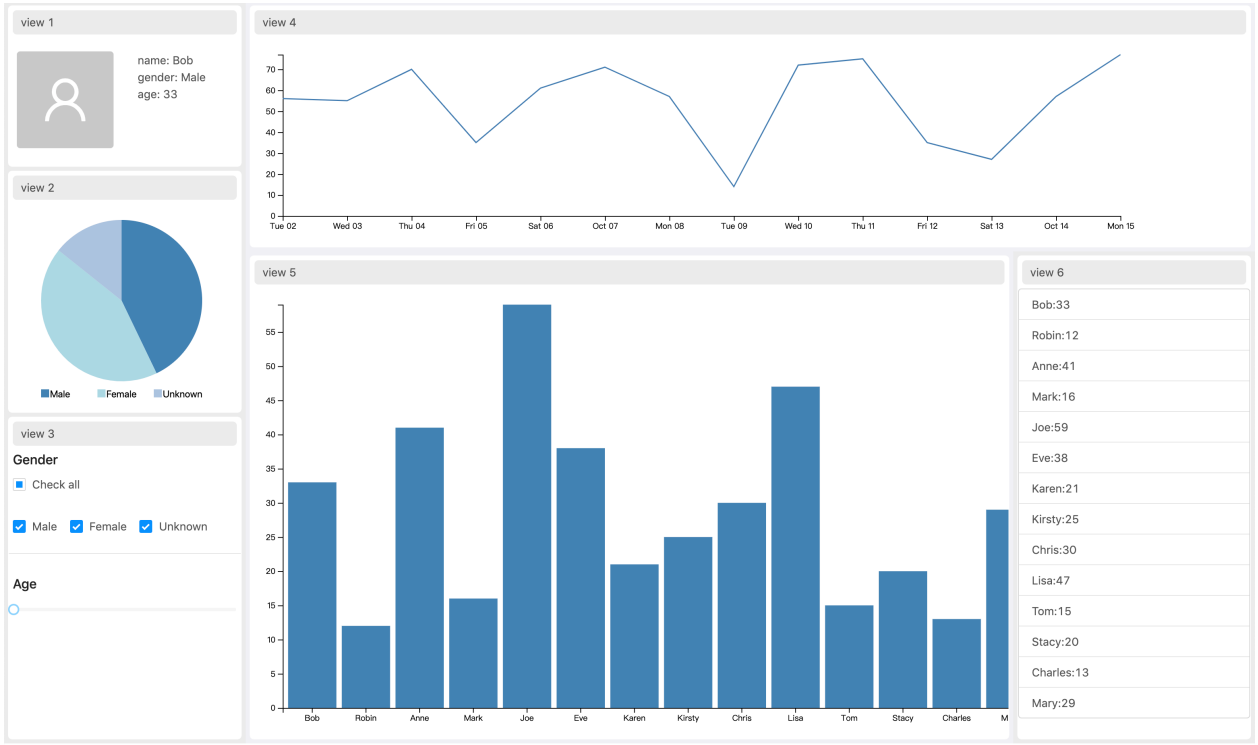
Resource: https://github.com/sdq/react-tutorial

Code: https://github.com/sdq/react-d3-dashboard

Build A Dashboard Application with React + D3

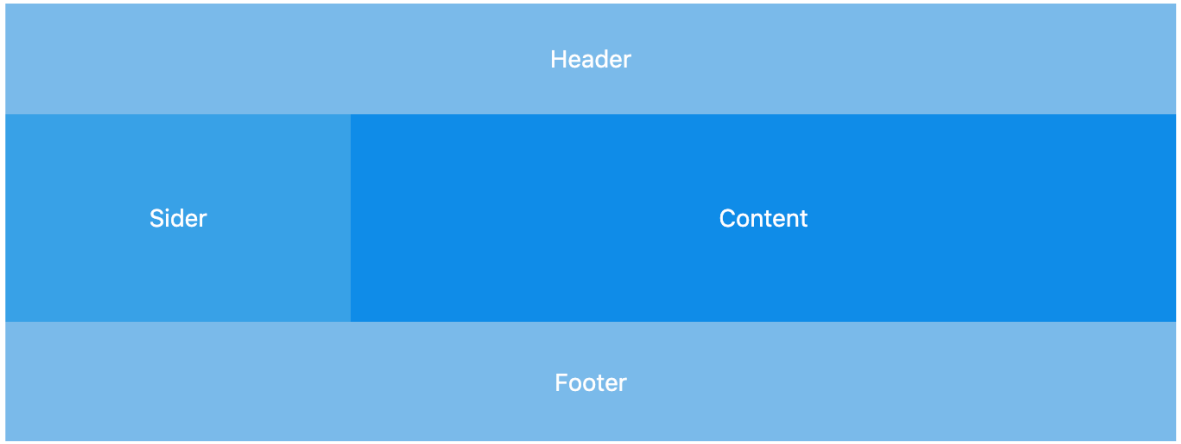
```
const data = [
    {
        'name': 'Bob',
        'gender': 'Male',
        'age': 33,
        'activities': [
            { "date": "2018-10-2", "count": 56 },
            { "date": "2018-10-3", "count": 55 },
            { "date": "2018-10-4", "count": 70 },
            { "date": "2018-10-5", "count": 35 },
            { "date": "2018-10-6", "count": 61 },
            { "date": "2018-10-7", "count": 71 },
            { "date": "2018-10-8", "count": 57 },
            { "date": "2018-10-9", "count": 14 },
            { "date": "2018-10-10", "count": 72 },
            { "date": "2018-10-11", "count": 75 },
            { "date": "2018-10-12", "count": 35 },
            { "date": "2018-10-13", "count": 27 },
            { "date": "2018-10-14", "count": 57 },
            { "date": "2018-10-15", "count": 77 }
        ]
    },
    {
        'name': 'Robin',
        'gender': 'Male',
        'age': 12,
        'activities': [
            { "date": "2018-10-2", "count": 31 },
            { "date": "2018-10-3", "count": 76 },
            { "date": "2018-10-4", "count": 48 },
            { "date": "2018-10-5", "count": 63 },
            { "date": "2018-10-6", "count": 42 },
```

Data

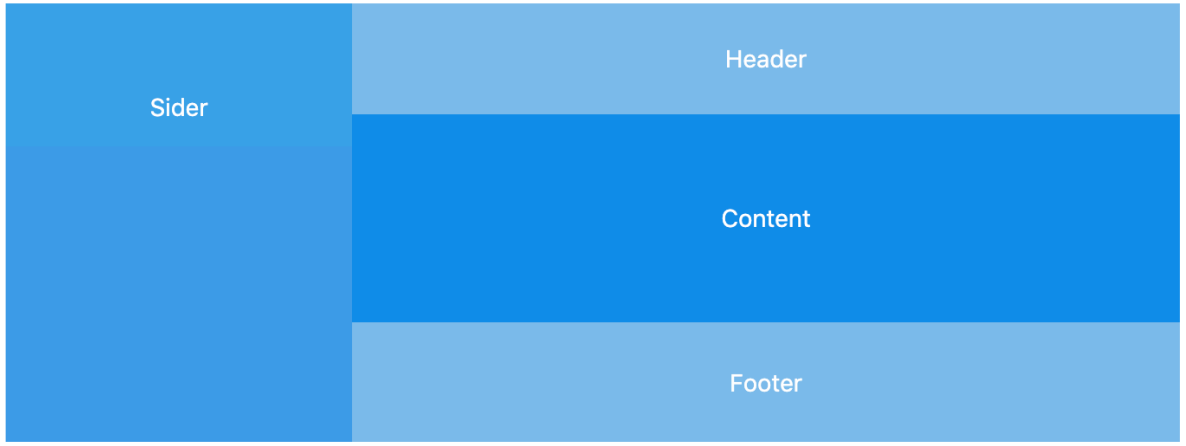


Dashboard

Dashboard – Ant Design Layout



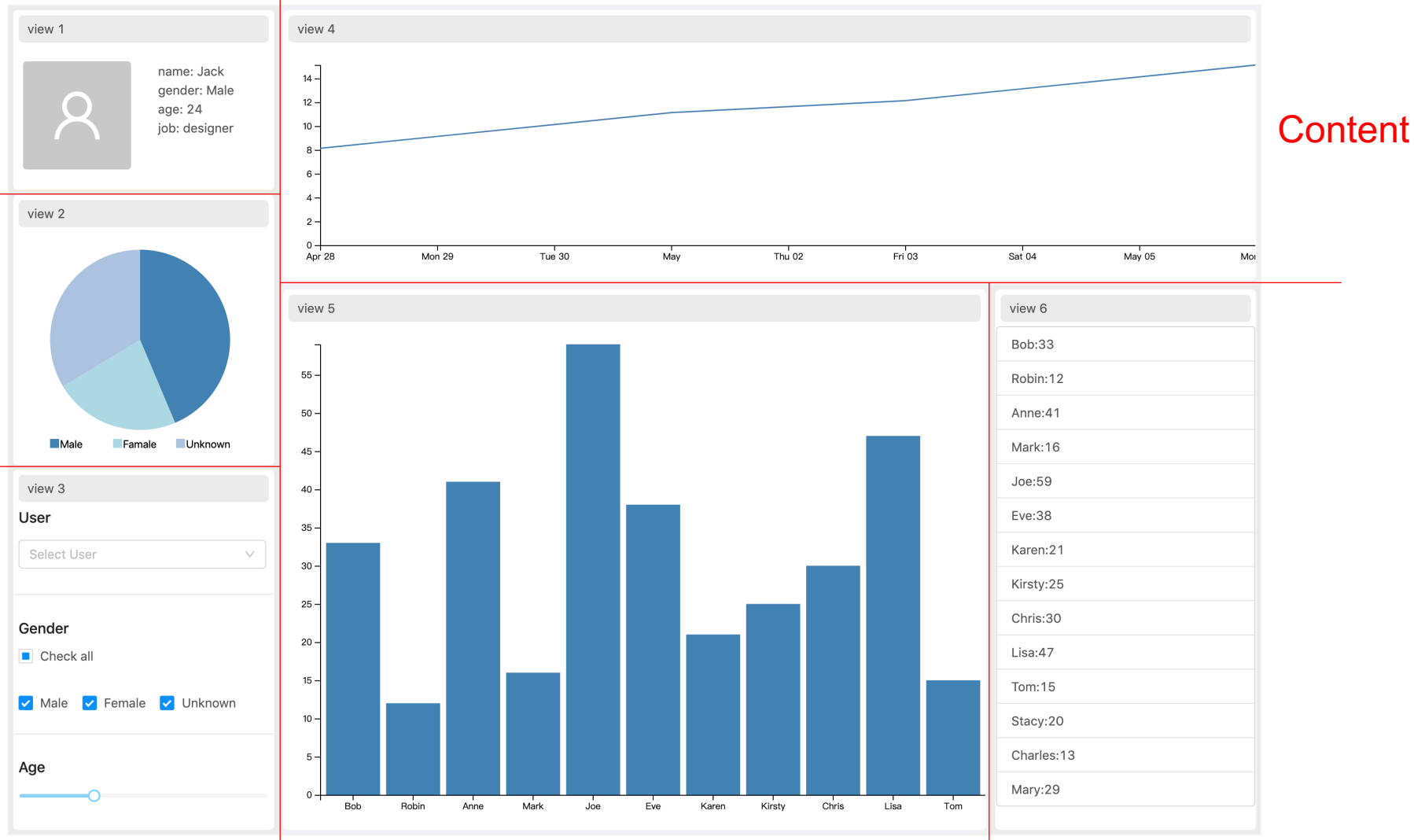

```
<Layout>
  <Header>Header</Header>
  <Layout>
    <Sider>Sider</Sider>
    <Content>Content</Content>
  </Layout>
  <Footer>Footer</Footer>
</Layout>
```



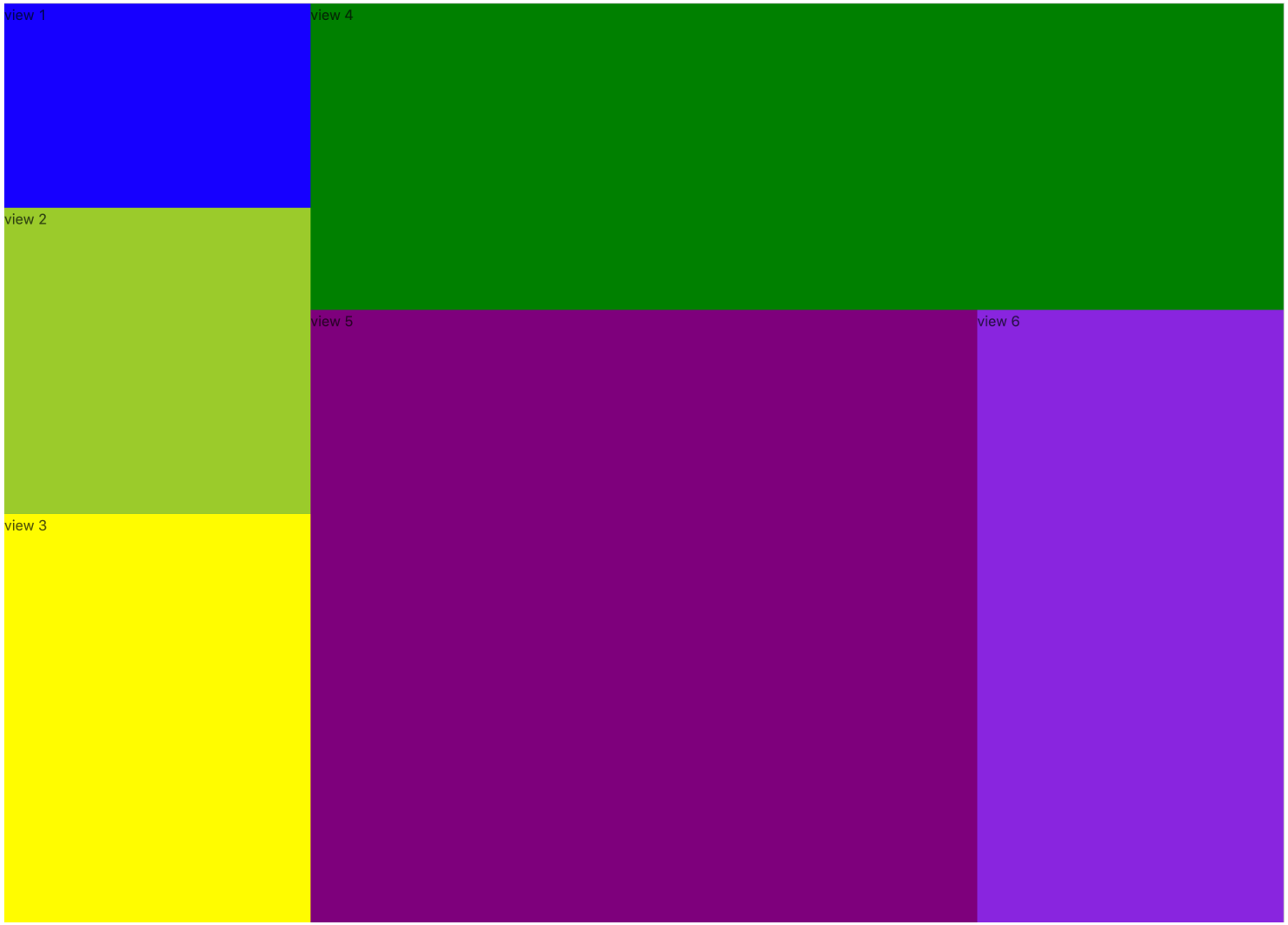

```
<Layout>
  <Sider>Sider</Sider>
  <Layout>
    <Header>Header</Header>
    <Content>Content</Content>
    <Footer>Footer</Footer>
  </Layout>
</Layout>
```

https://ant.design/components/layout/

Dashboard – Ant Design Layout

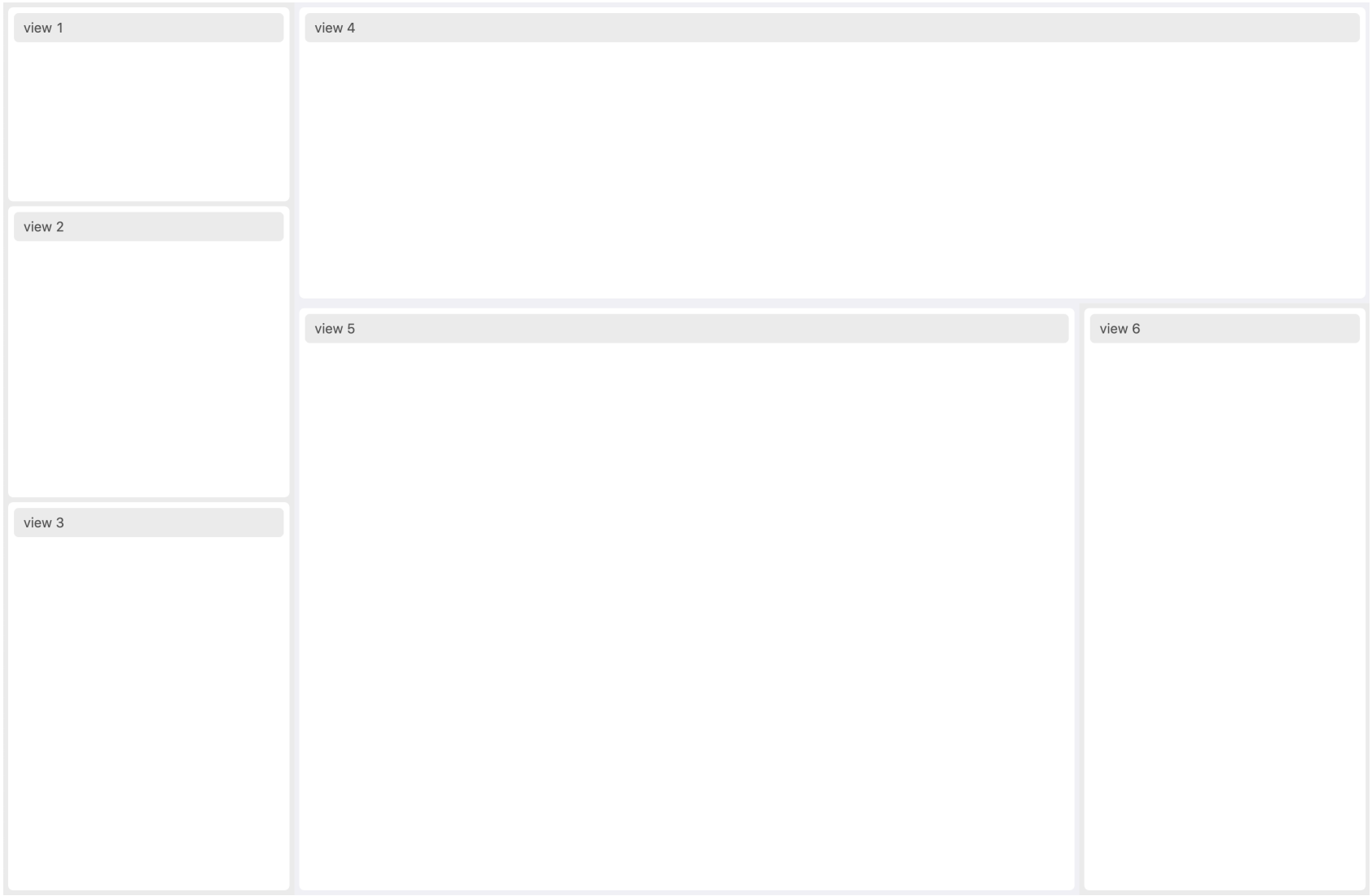


Dashboard – Project Starter

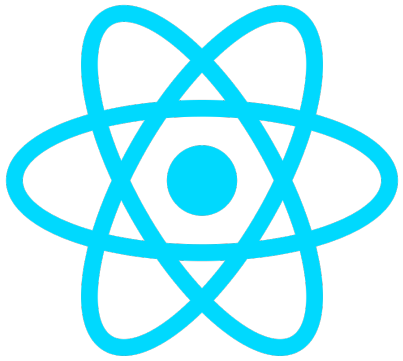



```
<Layout style={{ height: 900 }}>
    <Sider width={300}>
        <Content style={{ height: 200 }}>
            <View1/>
        </Content>
        <Content style={{ height: 300 }}>
            <View2/>
        </Content>
        <Content style={{ height: 400 }}>
            <View3/>
        </Content>
    </Sider>
    <Layout>
        <Content style={{ height: 300 }}>
            <View4/>
        </Content>
        <Layout style={{ height: 600 }}>
            <Content>
                <View5/>
            </Content>
            <Sider width={300}>
                <View6/>
            </Sider>
        </Layout>
    </Layout>
</Layout>
```

Write CSS to make dashboard look decent



D3 React Component



React
https://reactjs.org/

+

D3
https://d3js.org/

MyChart

- index.js (React container for D3 chart)
- vis.js (D3 code to draw chart)
- style.css (chart style)

D3 React Component

index.js

React container for D3 chart

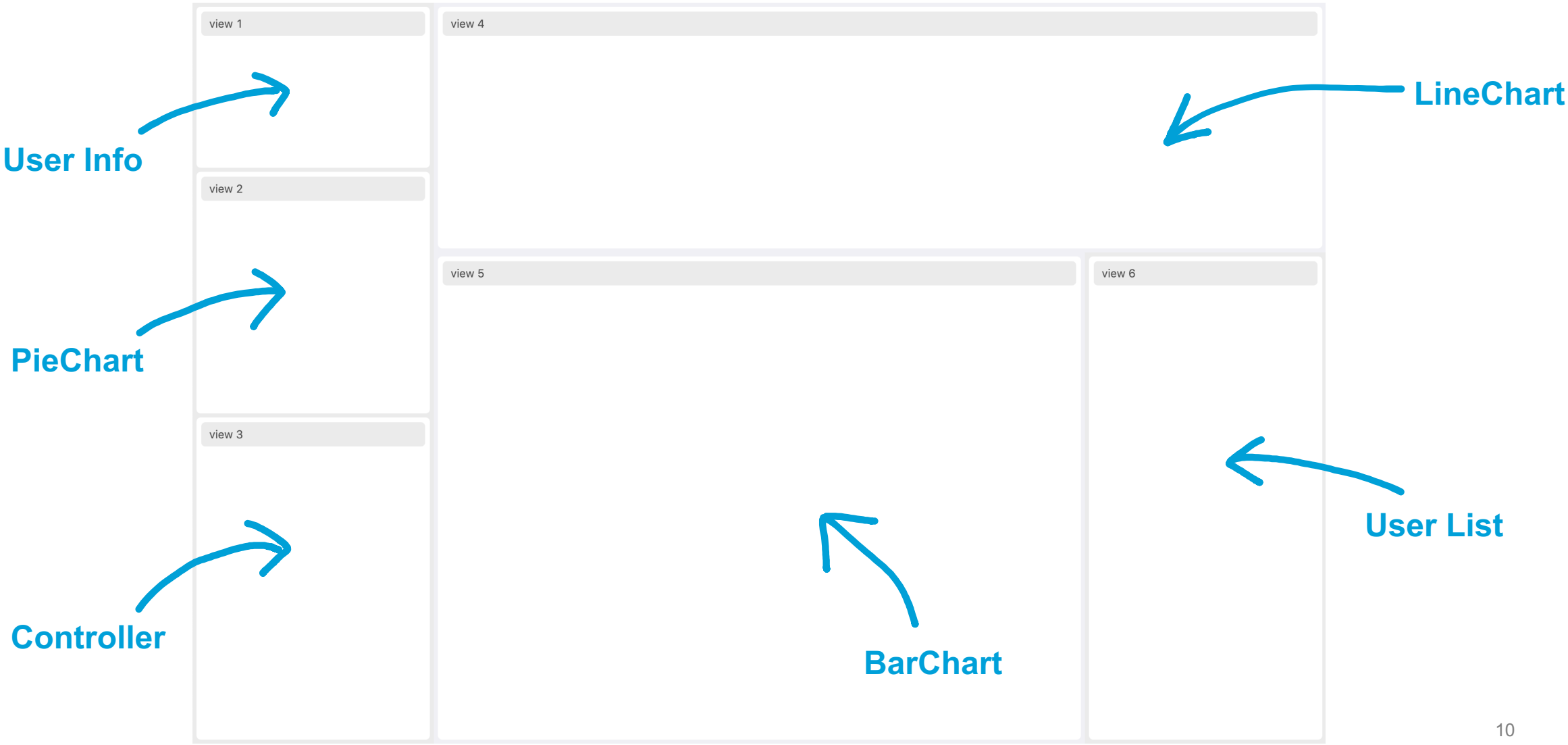
```
import React, { Component } from 'react';
import draw from './vis';

export default class MyChart extends Component {

    componentDidMount() {
        draw(this.props);
    }

    componentDidUpdate(preProps) {
        draw(this.props);
    }

    render() {
        return (
            <div className='vis-mychart'/>
        )
    }
}
```

D3 React Component

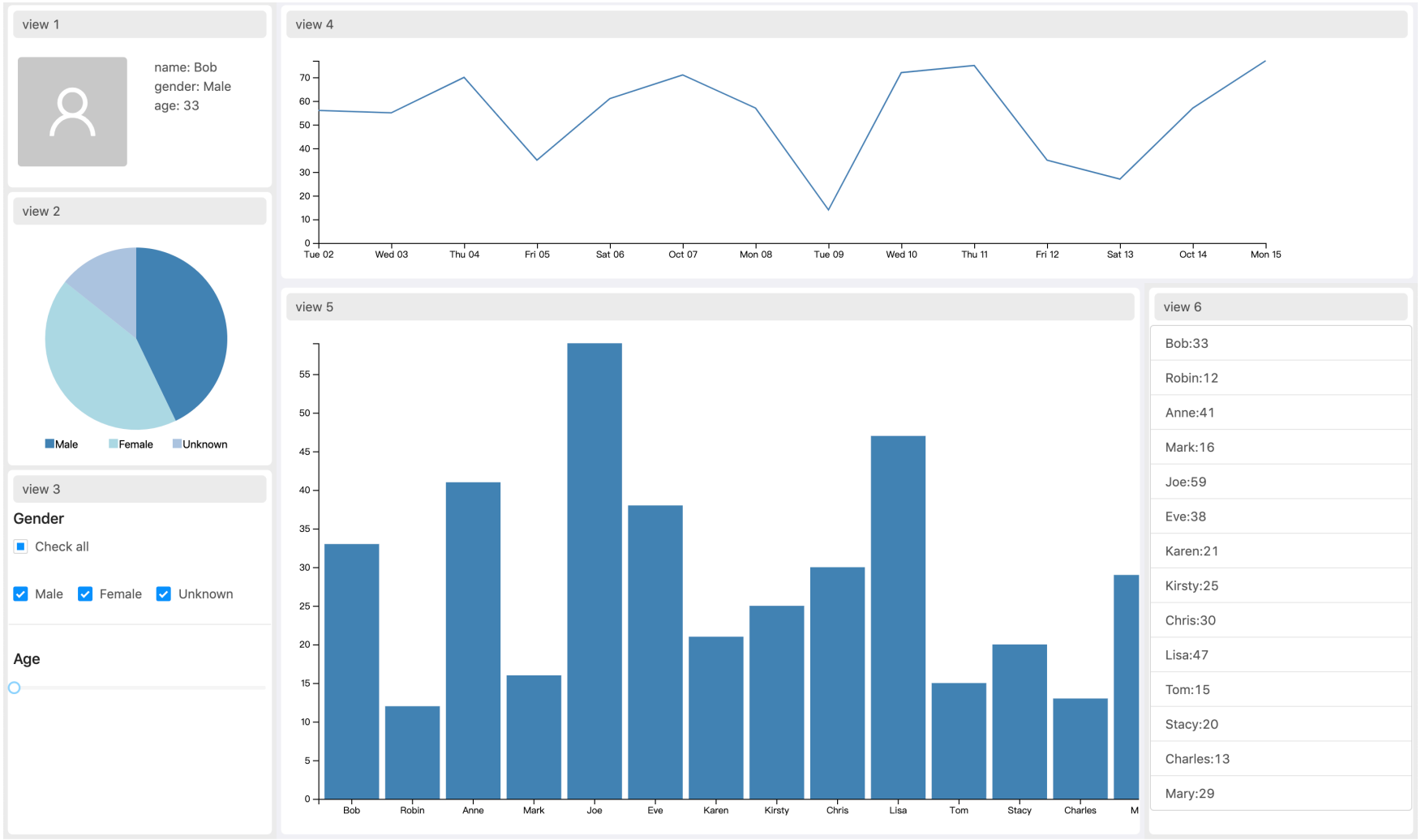
vis.js write D3 code to draw the chart

```
import * as d3 from 'd3';

const draw = (props) => {
    d3.select('.vis-mychart > *').remove();
    const data = props.data;
    const width = props.width;
    const height = props.height;
    let svg = d3.select('.vis-mychart').append('svg').attr('width',width).attr('height',height);
    //TODO: draw the chart
}

export default draw;
```

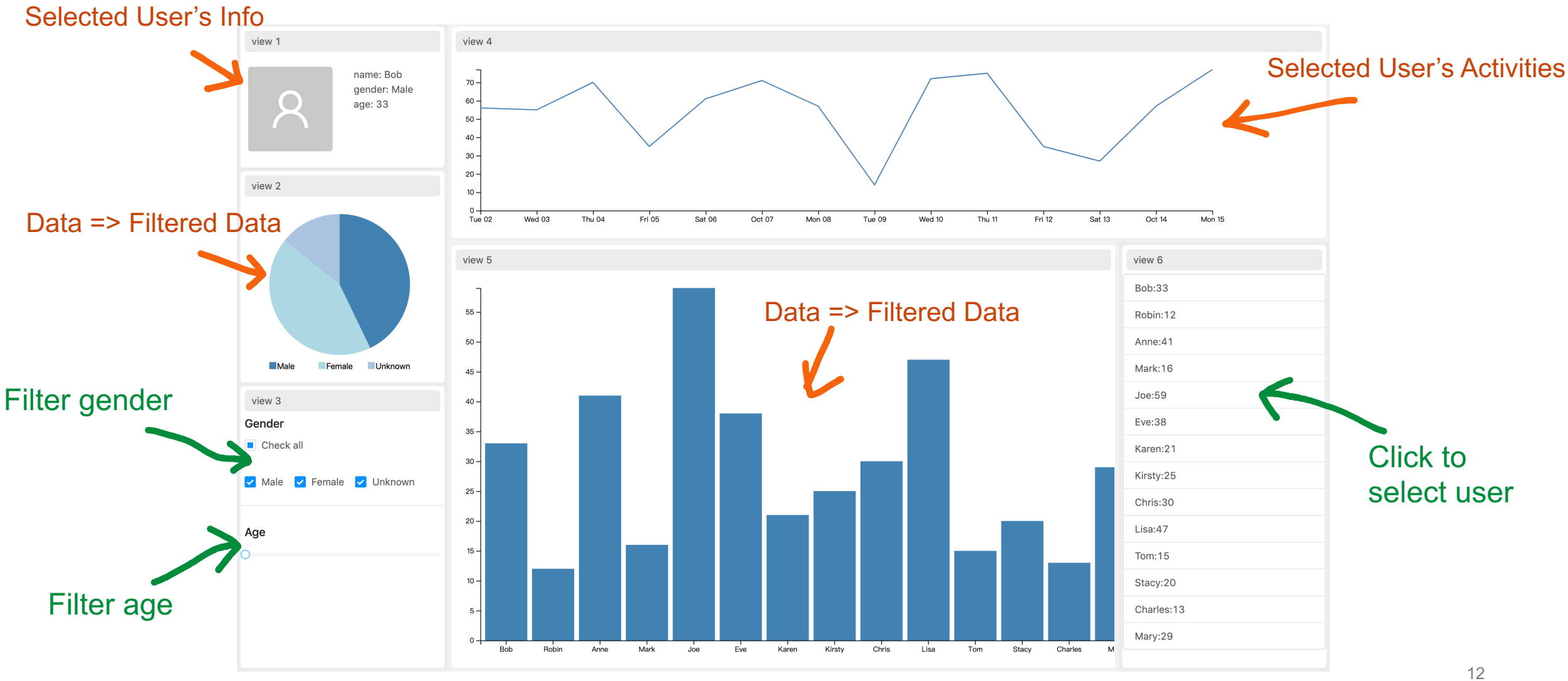
Add Components to Views



Dashboard with Components



Add Interactions



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