WilliViz - A Data Visualization Framework For iOS

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Objectives

Objective header here.

- Develop a framework for data visualization on iOS devices
- Identify data visualization techniques/principles that are specifically suited for mobile devices.
- Framework should be generic enough to allow developers to easily integrate with their apps
- Develop a portfolio of data visualizations
- Develop a tutorial / documentation to allow developers to learn how to use WilliViz

Introduction

We live in a time of Big Data. We have access to more data than ever before. We also have mobile devices that we cary with us at all times. Visualizing this data is an important step in analyzing and making use of this abundant information. Mobile devices present a unique and different platform for data visualization. The nature of the device and the manner in which we use them influences how we can use mobile devices as a platform for data visualization. WilliViz attempts to leverage some of these mobile-platform specific characteritics and provide a toolkit to allow other software developers to create beautiful, rich, interactive data visualizations for iOS devices.

Placeholder

Image

Figure 1: Figure caption

Data Visualization Paradigms For Mobile

The following help describe the paradigm of data visualization for mobile devices:

1. Identify data visualizations to be implemented
2. Delegate / Protocol software design pattern used to allow easy integration for developers
3. Duis porta consequat lorem
4. Curabitur pellentesque dignissim

Code Example

```
-(void)drawWilliViz:<WilliVizDataSourceDelegate>id delete;
[setDataSourceDelegate: self];
```

Code Section / How to use

FLOWCHART HERE

Implementation

1. Objective-C Programming Language
2. CoreGraphics drawing library
3. Delegate / protocol design pattern
4. Scaling coordiante system based on data
5. Built on top of Apple's UIView class
6. Plots are drawn independently, multiple plots on sceen at one time

Examples

Placeholder

Image

Figure 2: Figure caption

Placeholder

Image

Figure 3: Figure caption

Conclusion

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Future Work

Future things to do with WilliViz

- Developer documentation
- Distribution - open source?
- App showcase / portfolio
- Data collection
- User interactiveness

References

- Stanford CS193p course
- Apple CoreGraphics developer documentation
- WWDC video
- Carneige Mellon data visualization for iPad course

Acknowledgements

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