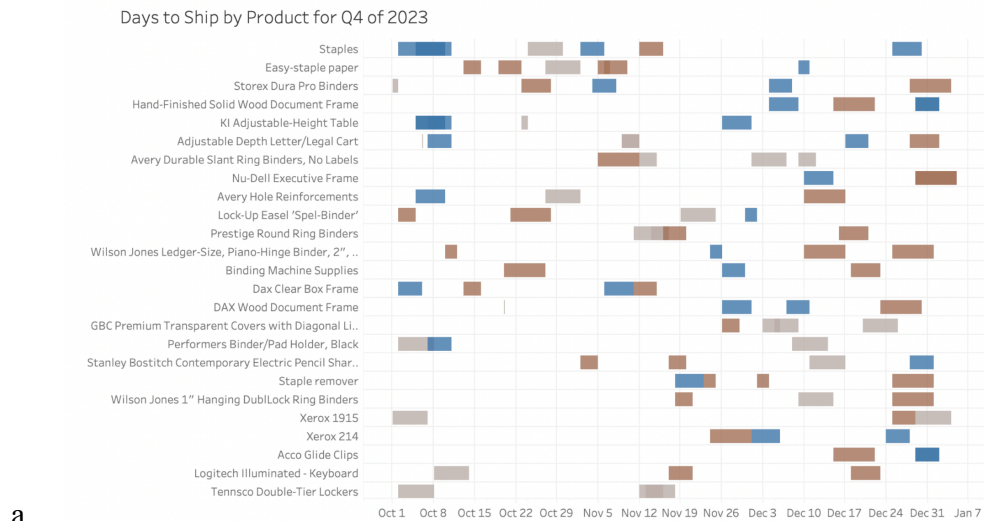
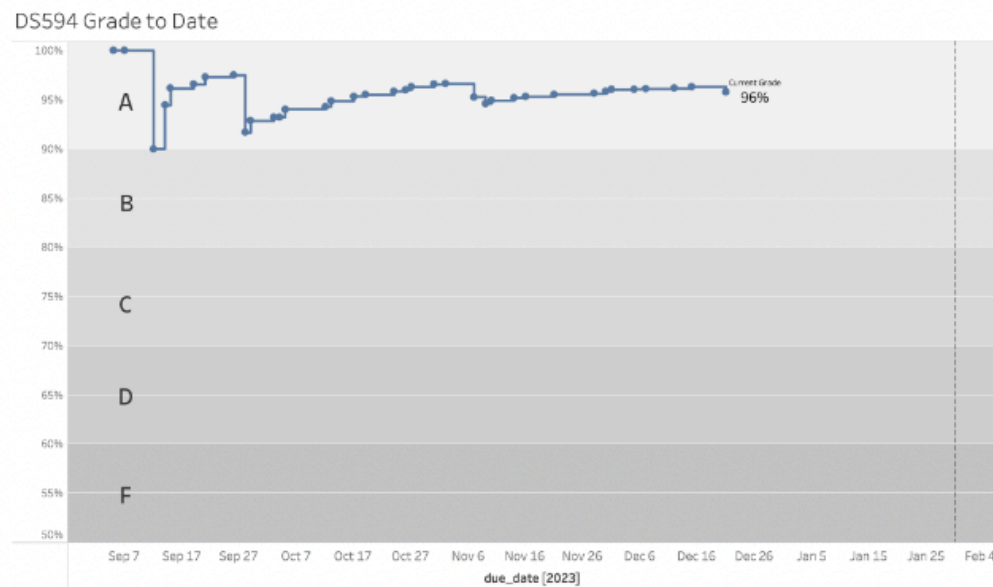


Context in Data Visualization

1. Data Example



a.



b.

2. Types of Analysis

a. Exploratory

- i. What people do to understand the data and figure out what might be noteworthy or interesting to highlight to others

b. Explanatory

- i. When people want to explain a specific thing or specific story they want to tell

3. Who, What & How?

- a. Who
 - i. Who is the audience?
 - ii. Who are you?
 - iii. What is important to them?
 - iv. What do they know?
 - v. What is your relationship to the audience?
- b. What
 - i. What do you want to tell your audience?
 - ii. What would make them care?
 - iii. What actions would you like them to take?
 - iv. What if they already know what you tell them?
 - v. What if you are wrong?
- c. How
 - i. How should you use data to inform the audience?
 - ii. How much detail should you give?
 - iii. How can you tell a story that inspires action?
 - iv. How should you use or not use technology?

4. Storyboarding Example

- a. Issue: Kids have bad attitudes about science
- b. Demonstrate Issue: show student assignment grades over course of year
- c. Ideas for overcoming issue, including pilot program
- d. Describe pilot program - goals, etc.
- e. Show before and after survey data to demonstrate of program
- f. Recommendation: pilot was a success and let's expand it, we need money

5. User Stories

- a. As [X] I would like to [Y] so that I can [Z]
 - i. X = persona stakeholder
 - ii. Y = intent of the stakeholder
 - iii. Z = desired action of the stakeholder

6. Why User Stories?

- a. A foundation for unpacking the who, what, and how of the project
- b. Keeps focus away from problems that don't need to be solved
- c. A non-technical inspiration for a technical solution

7. Example

- a. As a student, I would like to know my current course grade so that I can prioritize my effort with other classes

b. Who, What, How

i. Who

1. Student

a. Important

- i. Bias
- ii. Missed assignments
- iii. Grades
- iv. Incorrect grades

b. Know

- i. Ability
- ii. What assignments are done
- iii. Past grades
- iv. Grading rubric

c. Would like to know

- i. Upcoming assignments
- ii. What grades do I need

2. Professor

- a. What students to know grades are fair
- b. Grading is transparent
- c. Clear rubric

ii. What

1. Care if

- a. Something to do to improve
- b. Risks

2. Actions

- a. Notify me if there is something wrong
- b. Know if students are struggling

3. Wrong?

- a. Fix the grade

4. Their current grade

5. Projected grade

6. What missing

7. How Professor is grading

8. What needs to be done for a certain grade

9. Speakup

iii. How

1. How to use data

- a. Comparison
- b. Calculation logic
- c. Detail

- d. Coming assignments
 - e. What-if analysis
 - 2. Detail
 - a. Summary first
 - b. Drill down to detail
 - 3. Inspire action
 - a. What is needed to get a certain grade
 - 4. How tech
 - a. Piazza
 - b. Blackboard
 - c. Multichannel
 - d. Media
 - i. Phone for summary
 - ii. Laptop for detail
- c. Technical Solution
 - i. Build an interactive dashboard that can be consumed from a phone or desktop that will allow students to see their current grades, remaining assignments, projected grade, grade calculation detail, and what-if analysis