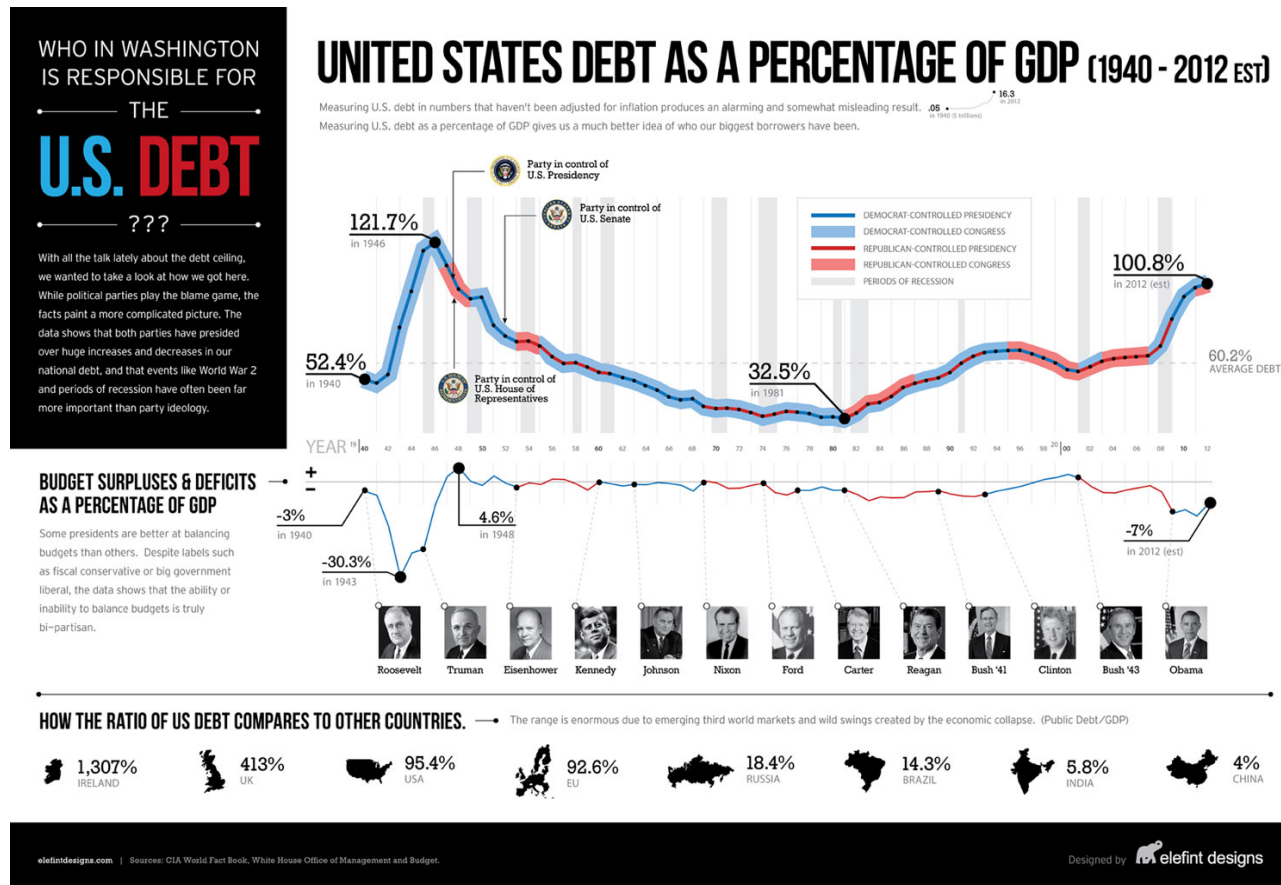


## Good Visualization



Source: <http://elefintdesigns.com/work/whos-responsible-for-the-u-s-debt-ceiling/>

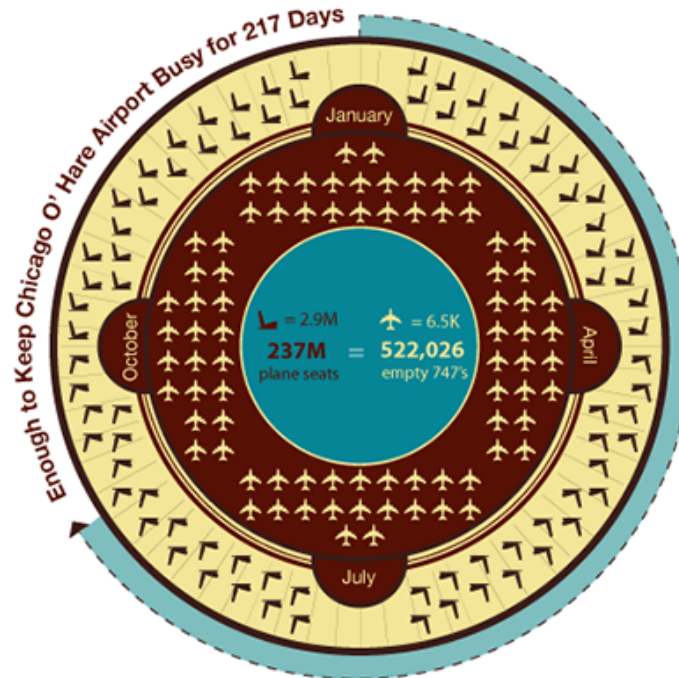
This infographic by *Elefint Designs* explores which political party is responsible for the U.S. national debt with a wealth of information about the two main political parties and their abilities to balance budgets. It's visually appealing, drawing the eye to the most important features, and is coded in the conventional colors for each political party, split between the main entities that have an impact on debt (House of Representatives, Senate, and Presidency). The presentation of the graphic allows one to look at who is in power in a given year, yet at the same time, to glance at the chart to make an assessment of correlations between color (party) and slope (increase in debt).

Without drawing the eye away from the rest of the diagram, *Elefint Designs* manages to include recession years, photos of presidents, and comparisons of the U.S. national debt to other countries' debt. Despite the massive amount of information in the diagram, it is highly digestible to the reader. One small criticism is that the two line graphs are in some sense inversely related, yet placed on top of one another, i.e. an increase in surplus is good and decreases debt, but an increase in debt is bad.

Finally, this infographic is particularly appealing because, even though it is a political diagram, it shows no clear party responsible the national debt, and makes the reader question whether it is a particular side's fault at all.

## **Bad Visualization**

### **How Many Airplane Seats are Left Empty Each Year?**



Source: <http://thedeepbluemar.net/2014/06/the-impact-of-data-visualization/>

This infographic aims to visually show how much wastage there is in the airline industry through the number of airplane seats left empty in a year. Though it presents useful and surprising data, the convoluted presentation of this infographic renders it useless for garnering any practical information apart from the statistics themselves.

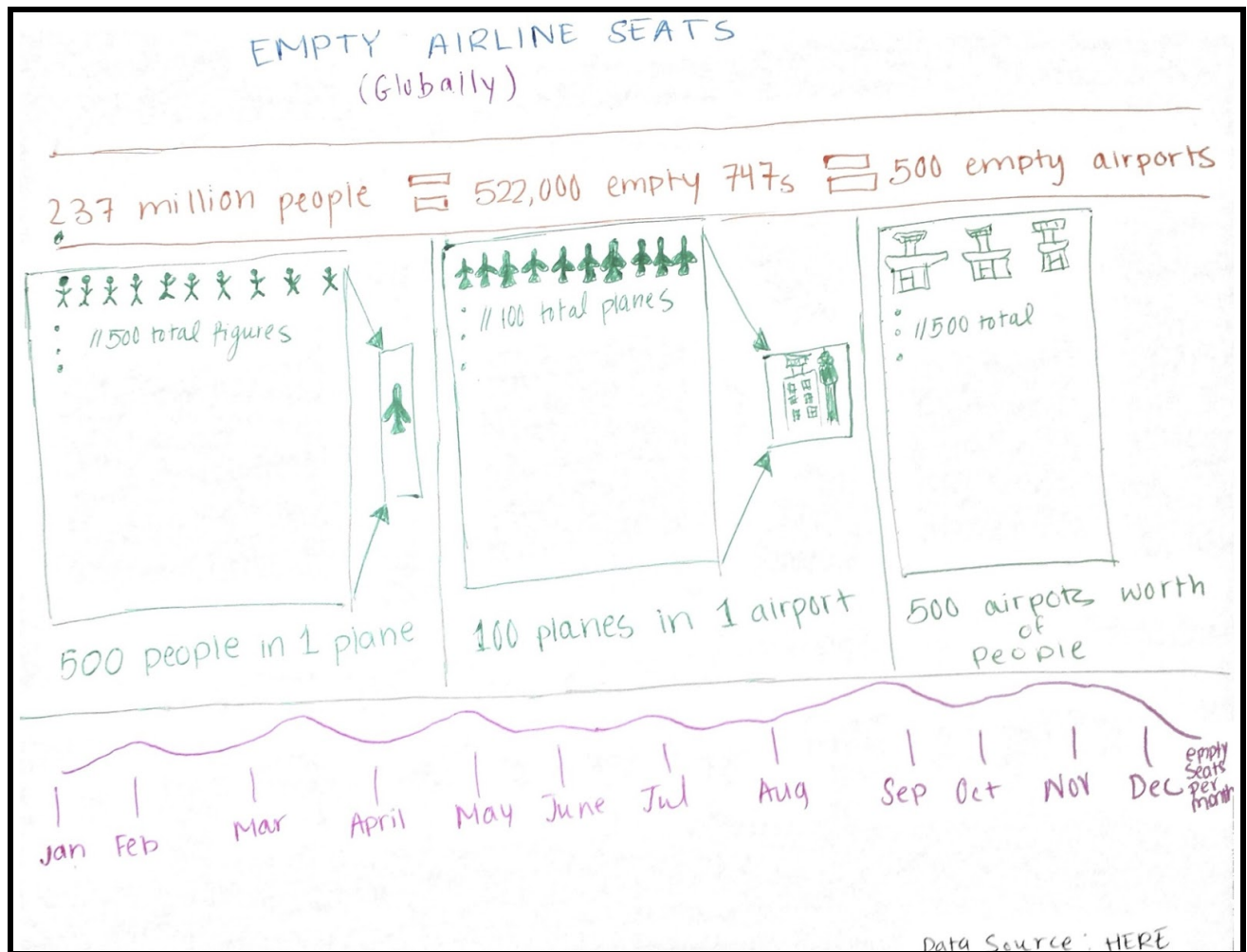
One of the larger issues with this infographic is its ambiguity in presenting worldwide or national airline data. We assumed that it dealt with global data, because with U.S. data, 237 million plane seats is equivalent to about  $\frac{1}{3}$  of all flights in a year. The authenticity of the data is unverified because it is uncited, so it is impossible to know for certain the provenance of the data.

Another problem with this visualization is its structure: the correlation with time isn't strong enough justify formatting the entire diagram around time. In fact, the time formatting is not only messy, but also doesn't make much sense in its distribution on the diagram, with gaps in the distributions of planes and seats at weird intervals. Time shouldn't be the focus of this diagram unless it can provide clearer and more worthwhile distinction of time's effect on the data.

Third, the same data is represented too many times, with the words in the middle, the small planes, and the small seats all conveying the same statistic.

In summary, despite being full of "stuff", this visualization only really gives one useful piece of information (empty plane seats) and two extrapolations of that data (the Chicago O'Hare figure and the empty 747 figure).

## Improved Visualization



Our group improved this visualization by spreading out the data in the graphic and adding visual tools for better comprehension. We took the statistics about the number of seats empty, number of 747s empty, and equivalent number of airports full of people, and made their equality very clear, which is important since the plane and airport statistics were found by manipulating the empty seat data. We also provide graphics for each statistic that further support that equality, as well as increase the message behind the content. Lastly, we provide a clear line graph at the bottom of the visualization to display at what time of year there are more empty seats versus when there are fewer.