The system design and some implications

My design is a summary of American's money lending pattern. When we want to visualize money lending pattern, some of the attributes seem to be more interesting to us, such as the specific dates where lending activities is intensive, or what do people use for the money they borrowed.

Based on the intuition of curiosity, I designed 3 linked graphs to try to visualize the money lending pattern in USA. The first simple bar chart is a quick summery of the credibility of each state relative to other states. A higher credibility means that the people who borrow money tends to return the amount in short time, or at least the time of return stated in the money borrowing agreements. On the other hand, low credibility can imply that the people don't tend to return the borrowed amount on time, and has bad reputations on returning money, such as creating bad debts. Bar chart is simple and quick for us to realize difference, the topmost and the lowest credibility-state. As a foreigner in USA, I am curious that a state named "North Dakota" (aka ND) has the highest money-lending credibility. After researching about the state in Google and Wikipedia, I found no specific economic reasonings to support the figure, instead I found out that North Dakota has the most churches per capita of any state. Additionally, North Dakota has the highest percentage of church-going population of any state. Maybe, religion do regulate the people!

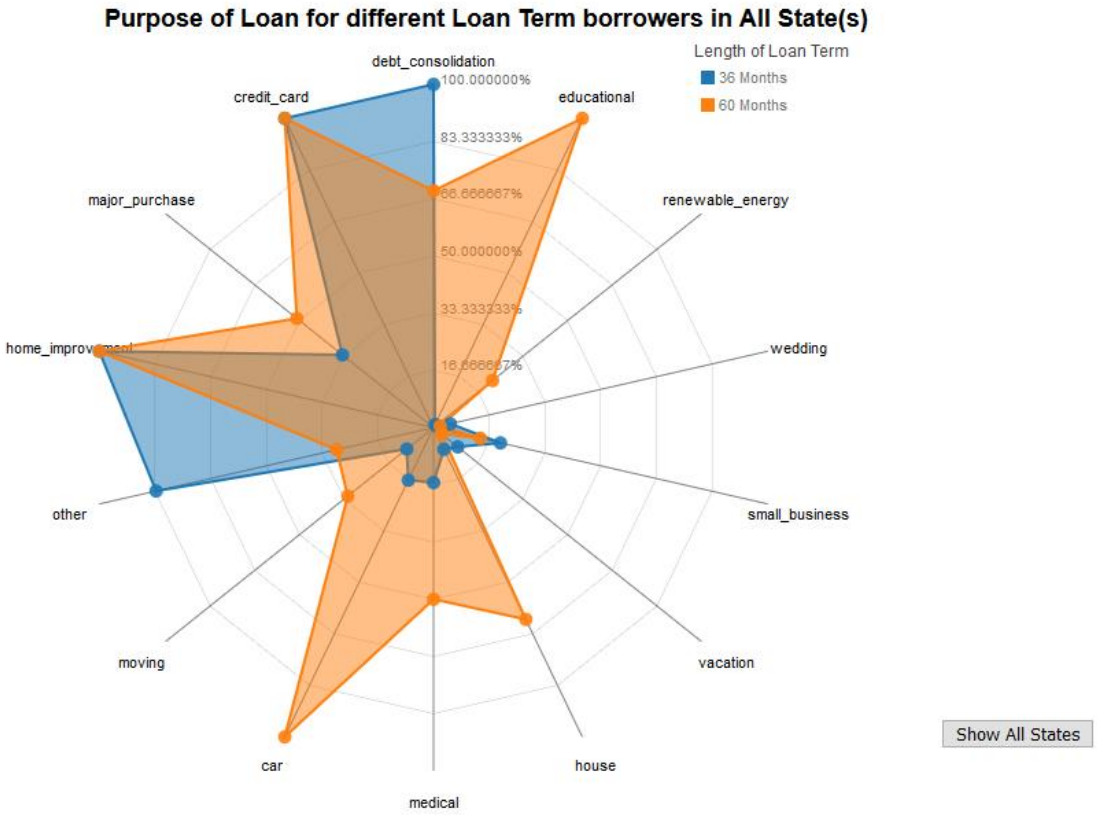
The purpose of loan borrowing, in general, can be concluded in few points: For short-to-middle term loans, people use it for debt consolidation and (daily) credit card expenditures, and home improvements. For long term loans, people tend to use it at credit card expenditures and educational, home improvements, and car purchase. We can also spot out that people tend more to use long term loans when considering borrowing money.

Due to the restrictions of data, money lending is not happening on daily basis, but only during a week window. Generally speaking, money lending has higher intensity at the end of that specific week. Also, we can observe that money lending disparity pattern decreases from 2010 to 2012, meaning people tend to borrow less, and less frequently in 2012 compared to 2010.

Reasons for picking my visualization encodings

Among a lot of encoding methods, I choose bar chart because it gives the audience a fast, simple and clear understanding of the "outstanding" bars from the chart. The user can also hover to each bar to see more details. I choose radar chart because it can show a variety of money purpose for the 2 different types of loan terms. Although I used **distortion** in this graph to make some attributes stands out a bit, I only care about the message that I can deliver to the audience, instead of the accurate numeric data of the percentage of different loan purpose. I finally choose calendar chart to see in what days in a month would lending activities be more intensive. Although it doesn't show a lot of surprising facts, I can find out that near the end of July and October, people tend to borrow more money. I cannot come up with

good reasonings, but it is worth more research work.



(Distortion is applied to debt consolidation and credit card, because these 2 fields consist of over 70% of all borrowing activities)

Remarks

I used different scales of green, yellow and red color for the calendar to show the intensity of money lending activities. Initially I plan to use an increasing intensity scale of a specific color. But instead I used the design from traffic lights, which has a clearer implication to the general public (red light smells danger~ yellow is caution, and green is good!) The same philosophy can be applied to money lending, because over lending means over leveraging your assets, and more risk you are bearing.