CS3121 - Group D - Data Visualization and Dashboarding

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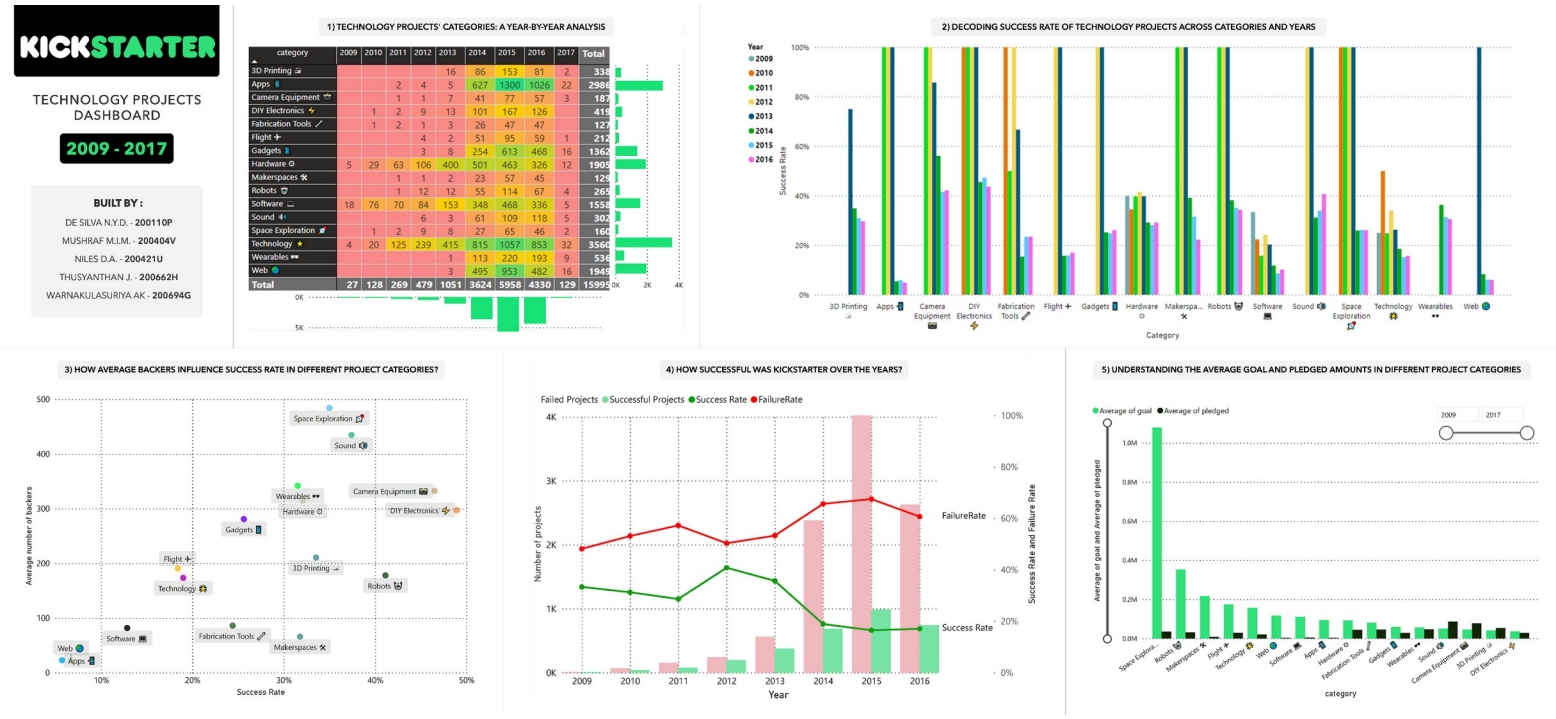

Visual Encoding Techniques

1) Categories and years are discrete metric attributes. Hence, we chose a heat map with the year visually encoded using the position of the horizontal axis and chronologically ordered, and similarly, the categories are alphabetically ordered. The color saturation (light red to green gradient) is used to indicate the project counts of each category over the years, allowing us to see the count and the peaks where specific categories became popular. Bar charts on the right and bottom illustrate the overall sum of the projects based on category, and years respectively, allowing us to see which categories are more popular overall and the trends of overall project count over the years.

2) Given that the category is a discrete metric attribute while the success rate is a continuous metric attribute, our choice for visualization is a Clustered column chart. We chose to encode the category attribute for the x-axis to allow viewers to compare success rates across different categories easily. By representing the success rate on the y-axis, the chart visually depicts the relative success rates for each category. To show the variation of success rates over time, we assigned different colors to each year in the clustered column chart.

3) Since the popularity of categories (average backers per project) and the success rate of projects are continuous metric variables, we chose a scatter plot to represent this visualization. Each point on the plot denotes a separate category. We used color to differentiate the category from each other and used text labels so that viewers do not have to refer to a separate key.

4) The successful and failed project data use green and red colors, respectively, for distinct visualization. Positional encoding is used along the x-axis to represent the discrete year data, and along the y-axis to encode the continuous percentage values. Circular colored dots indicate the percentage value of projects for each year in the success/failed category. Their variation across time is shown by connecting the points by lines & slopes to form a line graph. The clustered column chart uses length encoding to indicate the discrete number of successful /failed projects for each year.

5) We have plotted the average of goal money and the average of pledged money against categories in the fifth graph. Light green and dark green have been used to represent the average of the goal and the average of pledged, respectively. We have sorted the categories based on the goal in decreasing order. Moreover, we have added the filter by year functionality in which the graph will be redrawn for a specific year range. The y-axis represents USD on the million scale.

Significant Insights from Visualizations 4 and 5

4) When examining the trends in the success rate of projects on the Kickstarter platform, most projects have failed to reach their goals (failed) over time. The period of 2012-2013 had the highest percentage of projects ending successfully - while nearly closing the gap between the number of failed and successful projects. But despite more (successful) projects on the platform, success rates have declined since 2013 and remained low thereafter.

5) By looking at the chart, we can see that most categories have not received the expected amount for their projects. Meanwhile, projects based on Sound, Camera Equipment, and 3D Printing categories have received more funding than expected. The space exploration category has the highest difference between the average goal and the average pledged amount.