In this dissertation I would like to explore the gap between categorical data representations with numerical data representations implied in plots that are perceived as traditional. Because of the traditional aspects of a plied it is hard to understand the differences between what is visually represent representing our data well and what has always been done.

How do we bridge the gap between finding what is traditionally visualized in sports with what is complex data in sports we found that most of plot are related to what has been done in the past and what we want to do is migrate those members into using more complexed graphical representation for it. For example, we would see that a categorical shot chart is asked for in the field when a when a scatterplot is more useful in the visual perception of the chart. What we want to suggest and what we want to prove here in this paper in this dissertation is to figure out what is the difference between allowing the customer to dictate and determine what is true and useful and bridging the gap with what we have in research. What happens in society is that research is not useful in a practical sense but what we want to do we want to make sure that all of the information that is gained from the research it's also practical. We as designers have to take into account that we are developing resources for actual customers who may not understand that there understand that their visual ideas or expectations are actually a lot harder for them to perceptually understand. We need to figure out how we get past the data visualization research and get two the practical outcomes of our society.

we would like to determine the statistical differences from a density plot with a categorical plot is there a clear line when graphs should be changed is there a statistical difference that can be determined to justify the change from density point two categorical point and vice versa. So we will look at determining through experimentation and testing to see if there are any differences and understanding a density plot versus a categorical plot in a practical setting. We would do this in a way that will allow for all of our applicants and research participants to understand what is going on. For example it is exciting to see that sports have embraced statistical research and statistical methods to be implemented in game prep and in game decision however it is hard to understand why a particular plot is useful for the success of a team. What we will explore is looking at the differences between plot changes that will help researchers explore the outside