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Introduction: We will be utilizing the “Reporting, Predictive Analytics, and Everything in Between” guide from the 9.4: Read and Discuss Articles assignment. This guide can be utilized by analytics leaders, data analysts, data scientists, IT personnel, and product developers. As the engineers, a.k.a. “Product developers”, the guide can help us perform: reporting to predictive analytics, and anything in between. This guide is divided up on how we Engineers should start our analytics and how we should utilize this data we gathered.

Chapter 1 "Insights Needs: Getting the Right Information for Your Decisions":

- In the modern, computer-driven world, data is king. Those who know how to obtain, understand, and predict it are the most likely to prosper. This chapter is helpful because it explains why data is so crucial along with the different steps with how to discover, predict, and report on it. For our project, finding data from national statistics about vehicle incidents to sensor data from our product will create predictions on how successful it is in saving lives and money in the long run.
- In addition, this chapter does a great job of presenting the different types of data analytics and breaking down how and when each should be used. This is extremely useful as it makes it more clear to those with lack of experience in this field what types of analytics they should be pursuing. For our project, we do not need to predict the future through data science or machine learning, nor do we need to be able to present our information in a simple manner for consumers to understand. We simply need to find information that pertains to our project and will answer questions we will have. Because of this, we want to pursue the data exploration route.

Chapter 2 "Analytics Needs: Identifying the Right Analytics for You":

- The first chapter introduced the three analytical components: data exploration and visual analytics, data science and machine learning, and reporting. Identifying the right analytics is as important as getting the right information for decisions for our product development. This chapter is helpful because it explains those components in detail and helps us address business problems we might encounter using the provided knowledge. It can essentially provide a guideline for selecting right components that would be most helpful for business problems.
- There is plenty of data we can access concerning any aspect of our business plan. Once we gather this data, we must analyze it to draw insights from it. These insights can help us solve business problems, and make business decisions. This is done by searching for patterns or trends in data that can help us understand customers, the market, etc. For example, say we collect car accident data from an official public record. In order for this data to be useful, we must explore it. An analyst may look at the number of car accidents that are a result of tailgating. This analysis may lead us to gauge the usefulness or need for a product like ours. There are a number of softwares and machine learning methods we can apply to data we collect to find trends or patterns and adjust our business model accordingly.

Chapter 3 “Analytics Enhancers: Extending Analytics with Context and Speed”

- This chapter mentions analyzing data in real time using streaming analytics. This is something that we can use as the product designers for our project. Streaming analytics will allow us to view the sensor data in real time which could be extremely useful if we use it to track cars who have been in a car crash and also those who just avoided a crash. If another vehicle approaches a car, and the sensor see’s that it is too close and at risk of causing a collision this data can trigger a flag and can let us know where there has been a collision. Additionally we can use this data to determine if the LED’s are an effective way of notifying other drivers that they are too close. We will be able to know when the LED’s were triggered and if that in turn caused the other car to collide or to evade the user's car.Analyzing this data using streaming analytics will allow us designers to optimize our product such that it maximizes the users safety and chances of avoiding a potential collision.
- As product designers, we can utilize this chapter's recommendation of using "Embedded reporting". Which is a platform that allows the stakeholders or the customers to consume data easily from the product. We can utilize this type of report by making the LED have trackable devices that can have it’s indicator at the dashboard, like when your engine light goes on. Unless you have a high tech car, the part’s data can be pulled up on the car’s front dashboard monitor. To increase reliability.

Conclusion: The guide is informative, and does have real-world applications outside business analysis and outside the realm of business managers. The guide can be utilized by Engineers to better create a product from gathering the correct data needed to extending data analytics. The first chapter helped us formulate and organize the future data that we will analyze: the correct data, the second chapter was a guide on identifying the correct way of analyzing our

data, and then extending our analysis for context. All are useful for better designing our project and determining our customer base/satisfaction.