TeknoVe Additional Info for Project Step 5

UC 3

A number of concerns have come up regarding the long-term effectiveness of facial recognition models in vehicles. First, the CEO of TeknoVe recently forwarded the team an article about inherent racial biases in most facial recognition databases. “TeknoVe is a global company and it is imperative that our models work equally well for all of our customers”. Second, initial testing has confirmed the team’s suspicions that users might be frustrated if they go to enter a vehicle from a different angle and the system doesn’t trigger. While both of these concerns are significant, the good news is that the team has found their models to be approximately 96% accurate, meaning 4% false positives and 4% false negatives. They wonder if the 4% false negative rate they anticipate will frustrate users who have historically experienced 100% success with the simple proximity sensor. Is the added security really worth it?

UC 8

Inspired to push forward by some of the other use cases being considered by the company, TeknoVe’s CTO is keen to improve the buying propensity models the team has been playing with. Existing user data seems to be providing both rich customer segmentation in each region and, back-testing, an approximate 5% improvement in precision of demand estimates. This 5% could make or break the company’s profitability in a given year when compounded across all the use cases such a predictor supports. Still, this new model has provided some troubling results. For instance, accuracy plummeted in some new sales locations. Upon further analysis, the team realized that these regions had significantly different demographics. They wondered if they would be able to correct this model bias or otherwise use different approaches whenever they entered a new region. They also wondered if it was ethical that such a model might

push TeknoVe towards only selling in markets with certain demographics.

UC 9

The sustainability team has become a major champion of the demand response use case put forth by the team. Their data suggests that customers almost never need the full time their vehicle spends plugged in to reach the power limits needed for their next trip. They believe they can predict length of trip with 95% accuracy and that by adding a 15% buffer in charge required, can cover 99.7% of trips. The remaining .3% of outliers are, they believe, coverable through a simple manual override switch in the existing mobile app. One concern that has arisen is that the system will be much more effective in TeknoVe's premium models which come with more battery capacity. While this could be considered an additional perk of the premium models, the team worries about blowback that may arise from not making this critical sustainability feature available to all customers.