TeknoVe Additional Info for Project Step 4

UC 3

Transfer learning is a hot new area of machine learning that enables a generic model to be “re-trained” slightly for a specific user or scenario. The team has identified that this is the same technology large tech companies have used to individualize speech models and face recognition models for cell phones. The team hopes to use publicly available facial recognition databases to train an initial model, and then have the user spend three to five minutes training their specific model when they purchase their vehicle. One concern the team has with this approach is that the publicly available dataset does not account for the different angles from which individuals tend to approach cars. Additionally, the prospect of multiple drivers could mean an additional level of complexity not present in cell phones.

UC 6

The Procurement and Supply Chain teams had previously voiced their concern around an inability to classify what is or isn’t negative news that would warrant their attention. In order to overcome this issue, the innovation team has sourced approximately 10,000 articles from over the last five years, many of which are tied to events that were eventually problematic. The team is hoping that the VP of Supply Chain will allocate the time necessary for his employees to read these articles and tag them. The hope is that with only 35 employees, that one month of an article tagged per day would be sufficient and the innovation team has a script prepared to email a new article each day to each team member. Still, there is some concern about redundancy and whether or not different analysts would classify articles in the same way.

UC 10

Similar to the vehicle predictive maintenance use case, the CTO's plan to use machinery and heavy equipment sensors to schedule maintenance in the factories uses a series of generic predictors and classifiers. It also contains a robust history of failure events. One concern the team has, however, is that their factory's equipment is relatively new and there may not be sufficient data to predict failures. Thankfully the equipment manufacturers seem to be willing to provide some seed data and the CTO's proposed simulation/"digital twin" techniques might be able to overcome these barriers. Such a model would be among the biggest potential cost savers to TeknoVe's business and the CTO's confidence seems to be drawing a lot of support.