**Google App Engine Session 1**

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Question 1:

In the confirming quotes method we make use of JPA transactions. This is done to provide the all-or-nothing semantics. This means that when one of the quotes in the list of quotes cannot be confirmed that all quotes up to that point has to be cancelled. This is done by a rollback. We did not use cross-group transactions (XGT) because XGT has a limitation on the amount of entity groups it can perform queries on, which is 25. This means that in the car rental agency service where there are 32 registered car rental companies it is possible that when we had used XGT it wouldn’t have been able to confirm the quotes if there were more than 25 entity groups meaning we would want to confirm a quote in more than 25 car rental companies. That is why we used single transactions (on one entity group), so confirming the quotes per car rental company.

Question 2:

We would again use the same design decision, not using XGT, because when we would want to modify data, using XGT, we will probably exceed the entity group limitation of 25 groups. Let say we want to change for all users the preference to one and the same preference. In practice the number of users will exceed 25 for sure, so using XGT will not be possible. Therefore we should use once again single transaction (on one entity group) to modify the data of the users.

Question 3: