1. Why did you not include a nav system?
   1. Indoor positioning system
      1. Expensive
      2. Robust implementation
   2. 3D scaled model of the interior
      1. Require exact workplace plots.
      2. Against company’s policy.
   3. Not within the scope of my research
2. Why did you create a dataset yourself and about its reliability?
   1. It is a dataset generated solemnly for the AR prototype.
   2. No similar pre-existing systems.
   3. To test which model best to apply in the current context it was applied to.
3. How does the RS work?
   1. Two user query models
      1. Visitor
         1. Collaborative + Item to item based similarity -> user query
      2. Intern
         1. ((Sec/HR/Manager) + (GR,RestRooms,Kitchen)) + item to item based -> user query
4. Explain the AR part.
   1. Two object and image recognition techniques
      1. Traditional computer vision
         1. Recognise via edges and contours
      2. Deep Learning techniques
         1. CNN
         2. Fed 3D Object
         3. Creates frames (builds dataset)
         4. Estimates pose
         5. Edges and contours detected in each frame
   2. Not much content with regards to exactly what architectures were applied since commercial library.
5. Why did you choose SVD++ why not use deep learning str8 away?
   1. Not large enough dataset
   2. For prototyping
   3. Has already been done and compared with svd++
6. The panning issue, explain.
   1. Cannot use multiple model targets in one scene
7. Why did you not include live directions?
   1. Location-based AR
8. Why did you not quantity test Vuforia algorithms and what kind of algs did they make use of?
   1. Commercial library, cannot access their api
9. What would you improve?
10. What other applications why specifically this workplace?
11. Why did you test SVD++ on precision accuracy only?
    1. Classification accuracy = only measure whether recommended items are good without considering which item is better
    2. Rank accuracy = too sensitive given they ask the system to recommend the best items when, in practice, it would sufﬁce to recommend good items and not necessarily the best.
12. Why did you use RMSE and MAE?
    1. MAE
       1. The mean absolute error measures the difference, as absolute value, between the prediction of the algorithm and the real rating.
    2. RMSE
       1. places greater emphasis on larger errors.
13. What is extended tracking?
    1. Feature which allows Vuforia to track targets using natural features surrounding it.
    2. Vuforia builds a map of features surrounding the target, maintaining detection even though not within camera view.
14. How does object recognition works using model targets
    1. Interest point detection
       1. Works by having a set of template images, capturing the object appearance and pre-deﬁned feature patterns. As features are detected by the tracker, they are compared to the features – interest points – of the template images and the orientation can be calculated
15. How does pose estimation work
    1. **3D pose estimation** is a process of predicting the transformation of an object from a user-defined reference pose.
    2. **Points are extracted edges and corners mostly**
       1. **Reconstructs the image points**
    3. **Can use the iterative closest point algorithm**
    4. Can handle occlusion
    5. Estimation by comparison within phone using a database of points
16. How Does Model tracking work in Vuforia
    1. Edge based method
       1. Extracts contour and fit them to the models’ outlines
       2. OR look for strong gradients in image around first estimation of the object pose without explicitly extracting contours – fast and general
    2. RAPiD
       1. Low computational complexity
       2. Sampled control points along 3d model edges
          1. Simple loop
             1. Each fram prediciting pose= est pose visible with new location
             2. Match and compares points
    3. OR Explicit Edge Extraction
       1. Globally match model primitives with primitives extracted from the image
    4. RAPiD is more likely being use