**Code changes**

1. ~~Instead of ListView and putting stuff by parsing data, use the android class directly (Cursor Adapter)~~ ← possible slow rendering and janks
2. Slow firebase queries:
   1. ~~While fetching the image takes time, add some suitable icon to be visible in the gap (even if it is a cached image) ← try to make local caches and use CPU profiler on release APK~~
      1. **Difference between Debug and Release APK**
   2. ~~Performance optimisation (Cold starts) → LATER~~
3. ~~Freeze the~~ [~~app orientation~~](https://android.jlelse.eu/handling-orientation-changes-in-android-7072958c442a) ~~to verticle permanently. ← using ViewModels and LiveData~~
4. TODO:
   1. ~~Instead of 5 fragments, have just one for the bills activity~~
   2. ~~Sort the camera and bill forms thing~~ ~~(will browse from the gallery and not use camera → low quality captures from an in-build camera)~~
   3. ~~Make a small local caching app~~
   4. ~~Make a~~ [~~loading~~](https://stackoverflow.com/questions/38663858/android-loading-image-before-activity-starts) ~~activity class or maybe an~~ [~~overlay~~](https://medium.com/@agrawalsuneet/viewoverlay-in-android-c12e43ed4a98)
   5. Caching for other lists
      1. **~~(TODO) UI~~**
         1. ~~forms: bill, event, complaint~~, ~~menuEdit~~
         2. ~~pages: event, user~~, **bill**, ~~about~~, ~~login/signu~~p, ~~menu~~
         3. ~~views: recycler view, nav bar, side bar, top toolbar, tab views~~
   6. Testing:
      1. **App-hopping behaviour**
      2. **Life cycle checks**
      3. **Screen rotation data vanish**
      4. **activity/fragment stacking**
5. Memory leaks:
   1. **Destroy or not destroy the activity at the start of another activity**
   2. ~~Home activity is too network/RAM intense ← Fragment stacking and db background threads~~
6. ~~Caching: ← try to implement a local caching app (IMPORTANT!!)~~
   1. ~~Local caching requires data validation~~
   2. ~~Cloud caching requires a proper back-end and cloud communication ← Back-end not required since there exists no computation either on server side or~~
   3. ~~Look into the importance of caching~~

**DB**

Aim: To try to include as much relevant data as possible

Things to look into:

1. Local cache validation (making forms editable)
2. Multiple images for bills and events for future updates

**Realtime**

1. Events collection have/should have the following things:
   1. dateTime:
      1. date:
      2. day:
      3. hours:
      4. minutes:
      5. month:
      6. seconds:
      7. time:
      8. timezoneOffset:
      9. [ye](https://console.firebase.google.com/project/karakoram-94656/database/karakoram-94656/data/events/-MCSPTOJIwl4tIrgVS2g/dateTime/year)a[r](https://console.firebase.google.com/project/karakoram-94656/database/karakoram-94656/data/events/-MCSPTOJIwl4tIrgVS2g/dateTime/year):
   2. Description
   3. Title
   4. Admin’s id who clicked the picture
   5. Link
2. hostelBills:
   1. amount
   2. Category
   3. Description
   4. Admin’s id who clicked the picture
   5. dateTime:
      1. timezoneOffset:

**Storage**

1. eventImages/
   1. Image (1) related to the event whose filename is event id
2. billImages/