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Final Project

Android Dev, Winter 21

1. Concepts/Structures
   1. Spinners (drop down menues)
      1. This by far was the most difficult to implement. The onClick handlers for these were activated every time the data was reinitialized. Since I was reinitializing one spinner with a selection from another, this caused infinite loops. My solution was to write very spaghetti code, setting global flags to signal what context we were in and executing certain initialization code only at the proper state.
   2. Network Access
      1. This also was challenging, since I wanted to access my data before displaying the spinners. I really needed to do waited IO to allow me to initialize the spinners, but since that is explicitly not allowed by Android, I had to implement essentially a state machine in the onLoadFinished routine and do some very non-OO stuff like a Switch statement, in addition to setting multiple state flags so that I knew the context from which the routine was called. I actually initiated initialization routines from the completion of the previous routines. Perhaps I have too many years of 3GL language experience, but this just seemed very “unclean” to me.
   3. Multiple Activities
      1. Passing searched data to be acted upon by the activity as a serializable ArrayList of objects
      2. Multiple color themes, different for each activity.
      3. 3 activities: Main-List of classes->One class with a scroll view of the various sections
   4. Recycler View
   5. Scroll View
   6. JSON parsing
   7. Imbedded (Spanned) formatting to bold item names before the actual data. Since several fields I was displaying were variable length, this worked to split the data into multiple lines rather than try and get it all to fit in a columnar format.
2. Planned features that were cut/changed
   1. Actually this worked very well, for the most part, although it took much longer than I thought. The only thing I probably shortcutted was the themes/colors. I am as far away from a UX designer as you can imagine, I have never been good with esthetics, so I’ll admit that I just went for implementing a few basic features to show I went away from the defaults.
3. Features not working
   1. At this point, no, not that I know of. One challenge, as I mentioned, was to get the spinners to initialize correctly. For example, when you select a department, it automatically has to update the courses spinner with the courses retrieved for that department, in addition to having “any” as the head, which is effectively a wildcard. Then, when you select a single course, the Items spinner is initialized with the sections for that course. Getting the spinners to initialize properly took some debugging.
   2. I didn’t implement a “register” button at all, which we had in the original Whidbey project, but was not implemented. That would be the next thing. We did say we’d have done that with more time. We weren’t sure what the end result would be, except to have a list of courses that were selected that could be listed by the user. Since we weren’t implementing the registration function, this would have been all we did in the original project anyway. This would have been a great way to use Prefereneces and saving state, as you could leave the app and take up with the list from before.
4. Would I have changed the scope
   1. As it was, I had a lot more time than I would have if I’d tried to complete the app during the quarter, so probably not. I did everything I’d originally planned to do when I proposed this.
5. Advice
   1. I’d have played around with Spinners in a separate app probably before I started this. It worked out.