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| Date | Tasks done |
| 26 Nov 2020 | Finished query and insert, and arranged UI of listview for MainActivity. |
| 27 Nov 2020 | Learned about ExpandableListView |
| 28 Nov 2020 | Changed db schema, add date field using text, drew out part of application architecture, sort display in MainActivity by Year, Month and Day Ascending. |
| 29 Nov | Added ExpandableListView by figuring out how to populate listDataChild and listHeader, solved double onCreate call problem. |
| 2 Dec | Retrieved categorical data per date |
| 3 Dec | Retrieve expense/income data per date. First round modified ParentLevelAdapter, not yet test yet. In the process of modifying SecondLevelAdapter. |
| 7 Dec | Tested ParentLevelAdapter and SecondLevelAdapter, trying to solve problem of 2nd level not displaying, and cursor out of bounds problem where getChildView() is still called even after last cursor position. |
| 15 Dec | When cursor is at last position, set it to point to start of cursor to prevent null ref error. Also, getChildCount is the number cursor size for a category and not the number of categories for a date, in 2ndLvlAdp, which solves the problem of displaying duplicate or not displaying all expenses for a category. Edit CustomExpListView width to fit category name and expense record, and height to view all expense records. Fix problem of records not displaying when categories pressed (used ExpandableListView instead of another I think).  CustomExpandableListView height still problematic where if too much records for a category, it doesn’t let you scroll, so cannot see all records if too many bcs of height. |
| 16 Dec | Can scroll categories and expense records, switched out CustomExpandableListView with an xml that only has ExpandableListView.  Set height of 2nd level ExpandableListView to be 162dp which is the height of two expense records, since its height even though match\_parent defaults to height of one expense record, and best to set height to more than one day will probably have more than one expense, and if set for 3 records will have too much empty space when expanding first level which shows categories, since one day may not have too much categories.  One possible improvement in the future is to have dynamic sizing of the 2nd level ExpandableListView, where it resizes according to the number of child views under it, which in this case would be ExpandableListView when expanding the categories and wanting to display the records, similar to Monefy where it adjusts size according to number of records under each category, and would push the other categories down to show all records for that current category.  Maybe I can add sums to each category and each date? Edit size and color and fonts of different levels and the box colors also. Can change to scroll horizontally so that no need for variable sized ExpandableLisViews? |
| 18 Jan | Solved RelativeLayout alignment problem and tested out viewPager on project with toolbar, to do the same on FYP tomorrow. |
| 19 Jan | Change Layouts to include viewPager, add sliderAdapter.  ExpandableList  How to transform Map<String, Map<String, Cursor>> to array format? Convert one key->value entry to an object? Each entry in the array in SliderAdapter corresponds to 1 page. One page represents one date’s expense and one ExpandableListView and therefore needs one OneLevelExpenseAdapter.  How to transform Map<String, Map<String, Cursor>> to an array of OneLevelExpenseAdapters? Isolate each Map entry and create a OneLevelExpenseAdapter object, and store in array, repeat for all Map entries.  Send that array of OneLevelExpenseAdapters to SlideAdapter to populate ExpandableListViews and then set ViewPager’s adapter to that SlideAdapter.  Added Adapters for each ExpandableListView for each page which represents 1 day’s expense to enable horizontal scrolling, + slider Adapter code. Still got bugs. Started report, formatting left page to start numbering and left margin of front cover page. |
| 20 Jan | Solved bugs related to using View Pager, overlapping of toolbar with displayed expense data. Now can display each day’s expense horizontally and expand categories vertically w/o ugly inflexible boundaries of a 2 level expandable ListView. |
| 21 Jan | Ensure order of displayed expense data is same as retrieved from query.  Used LinkedHashSet and LinkedHashMap to maintain order of expenses, start at last page and set it as latest expense date.  Simplify display, list out +/- of income/expense and change them to green/red. List date on top of ExpLV and maybe total sum there. Set sums on categories.  How to display ind. Expense properly? Maybe: set –ve if expense in manual entry. Checked Expense Option in ManualEntryActivity and put –ve sign if it’s Expense, managed to display ind. Expense properly now.  . |
| 22 Jan | How to display 2 explvs for income and expenses respectively? Get cursor of expenses and income separately, pass 2 arrays of page adapters when creating SlideAdapter. Stuck where number of pages which have expenses > than those with income, out of bounds exception in SlideAdapter because incomePageAdapter only has 1 entry because only 1 day has income entry while 4 days have expenses entry.  Either expense/incomePageAdapters might be less than the other.  Cases:   1. Either expense or income lesser. 2. Both same. (taken care of) 3. Both same but different dates 4. Either side has none. (check in SlideAdapter if statement)   Either way must ensure final array sizes are the same. Use uniqueDates to get array of dates that have expenses/income. Create 2d array of length unique dates, fill A[0] with expenses and A[1] with income |
| 23 Jan | Done with separating expenses income explv for each day.  Todo: Simplify display, list out +/- of income/expense and change them to green/red. List date on top of ExpLV and maybe total sum there. Set sums on categories   1. Remove Category from ind. Record 2. Remove option from ind. Record 3. Remove index 4. Remove date 5. Change color of amount   Left total sums of categories and set date, sums at dates too, set income/expense divider |
| 25 Jan | What data structure to use for total sums categories?  Date 1->category 1->Income ->sum  ->Expense->sum  ->category 2->Income->sum  ->Expense->sum  Date 2->>category 1->Income ->sum  ->Expense->sum  ->category 2->Income->sum  ->Expense->sum  Done displaying total sums besides categories, set dates, set income/expense divider. Left Sums at dates, design/spacing, monthly view. |
| 18 Feb | Sums at dates, design/spacing, monthly view. Balance displayed for each individual date on top of each page. Left design/spacing, monthly view. |
| 22 Feb | Done design/spacing for daily view. |
| 8 March | Adding insert function and get location function.  But to retrieve correct row to insert at ExpenseProvider need the record’s ID since there can be other records with all other same columns/fields. |
| 9 March | Added code for update expenses to interface with DB. Displayed record ID in a hidden field. Added code to check if redirect to ManualEntryActivity was for a new record or for update. Solve bug that doesn’t update currently selected date when onDateSet(). |
| 10 March | Done update and delete function for individual expenses. |
| 11 March | How to add location field at Manual Entry activity?  Add:  Coordinates/location: \_\_Press to get coordinates\_\_\_\_  Add Rates of Spending function  Continue with auto –extraction and confirm/reject data ASAP!  Added function to get device coordinates, along with background thread to update UI to display counter to increase responsiveness instead of using main thread for counter. |
| 12 March | Added insert function for coordinates, |
| 12 March | add button below it to open in maps when user updating a record by moving LocationService to another file instead of being declared in ManualEntryActivity, and using sendBroadcast to that activity from LocationService whenever onLocationChanged to assign longitude and latitude to global variables in ManualEntry so that it can be accessed and opened with maps by a button. |
| 13 March | Moved locationListener code to a background service to be able to retrieve longitude and latitude values to open coordinates on map. Ensured permissions asked, and if not granted will prompt when pressing coordinate field. Once user pressed the coordinate field but don’t have location settings on, will make sure user allows it before allowing user to go back. Tested scenarios including updating with/without a coordinate, add new record, ensure background thread for timer and locationListener in separate services files start and terminate properly. |
| 14 March | Created UI and database for manually adding budget. |
| 15 March |  |
| 16 March | Created UI and db table for manually adding budget. |
| 17 March | Added insertion for budgets. |
| 18 March | Can now view budgets, left supposed rates of spending for budgets and update & delete. |
| 19 March | Done with update and delete function for budget. Still need to modify views to properly display large values for budget. |
| 26 march | Budget fields can now properly display large amounts. |
| 29 March | Wrote code to extract total expense from image. |
| 30 March | Added code to extract date, still checking for corner cases. |
| 31 March | Went through all 56 Malaysian receipts. Identified corner cases, solved case 1. Still left 5, 6, 7, 12. |