DESIGN DOCUMENT OF ANDROID APPLICATION FOR ALL TIME FAVOURITE NEWS (ATF) APPLICATION

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ATF NEWS

Description

ATF News is a news app that will provide various categories of news like trending, politics, tech, entertainment, sports, fashion and world news. App will have a provision for the user to register, bookmark their news card and share their news card. App provides a world news widget of a list of countries. User registration will store their news preferences instead of device id which makes the user to install the app in any devices and still retrieve their preferences.

Intended User

Intended user for this app will focus on all passionate news readers.

Features

Main features:
- User registration through Google signin or Facebook signin or self registration.
- Display news based on user's preference over either current location or international.
- Bookmark news card into their favorites section will allow readers to read at a later time.
- Share news card.
- Display advertisements.
- Send alerts/notifications about breaking news.
- Widget of all country names to read their selected country news.
- Settings menu to modify their email, location based news and alert frequencies.

User Interface Mocks

Screen 1 – Login - Main

Screen 2 – Login - Enter
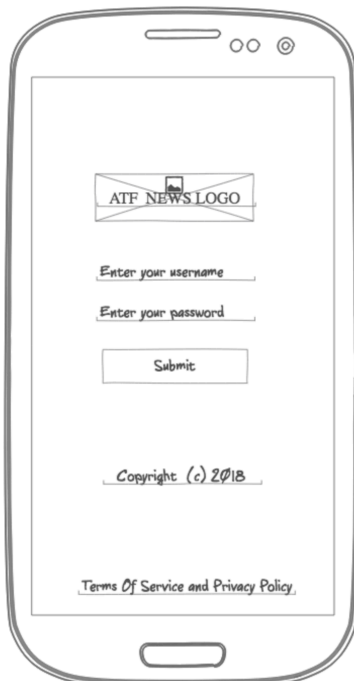
Screen 3 – Trending – News

Screen 4 – Favorite – News

Screen 5 – Content News

Screen 6 – Ad Mob

Search 7 – Settings
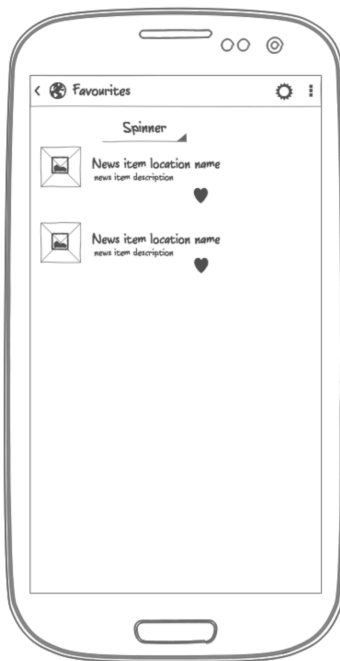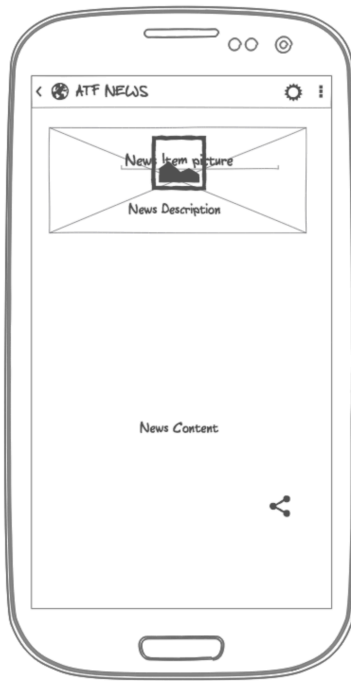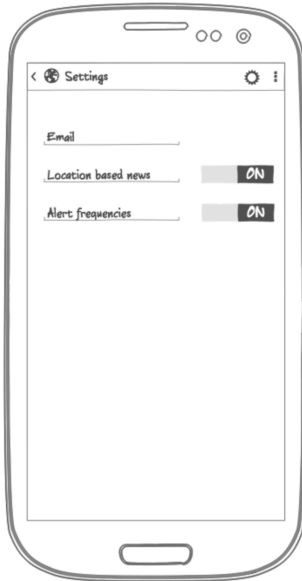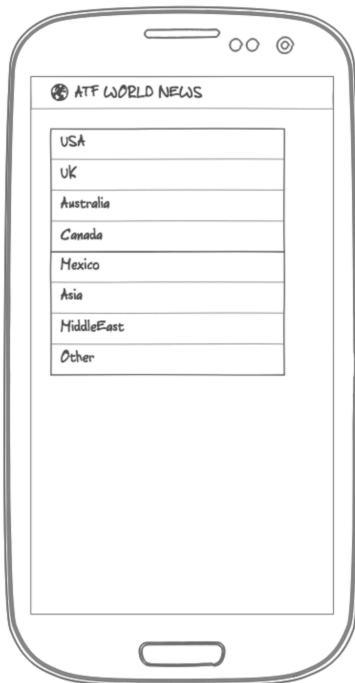
Search 8 – Widget containing country list

Key Considerations

How will your app handle data persistence?

Data persistence will be handled by Rooms database API and use its LiveData mechanism as well. Databases will be loaded and handled by a running GCE as well.

Describe any edge or corner cases in the UX.

- Whenever user faces an internet connectivity issue, then the app will display a snack bar that will notify about loss of internet and it will have a retry link.
- During loss of internet, user will still be able to browse the content as offline as the app will be using Volley API caching strategies.
- During the loss of internet, all the items inside Settings menu will be disabled like Email field, location based news selection field and alert frequency field.
- During loss of internet and user clicks on any item that are not previously cached then the user will be notified with a toast message and also a snack about No Connectiviy message.
- During loss of internet and user tries to login then app will show a snack bar with Internet connectivity issue and a Retry link
- If the news content doesn't have an image to load then a No image available placeholder will be applied to the image block.
- If the news content text has more than 1000 words then it will be truncated during initial page load to avoid page crash.

Describe any libraries you'll be using and share your reasoning for including them.

- Picasso will be used to load images.
- Volley will be used to handle the responses from the webservice call in-order to retry if failure and cache responses as well for offline loading.
- ButterKnife will be used for data binding resources.
- Room database persistence library to store user information's and preferences.
- GSON to parse JSON responses.
- Design support library for material design.

Describe how you will implement Google Play Services or other external services.

- Google play services will be used to load advertisements and location services.
- Firebase services will be used for google signin, facebook signin and sending breaking news alerts.
- Google Cloud Environment service will be used to expose a webservice url in-order to retrieve user information's from Room database.

Next Steps: Required Tasks

Task 1: Project Setup

- Create a multimodule project structure that contains modules like app, backend, androidlibrary and a java library.
- Create project based gradle file and gradle files for each module.
- Implement the dependencies in each gradle files that contains free and paid versions in it.
- Implement release tasks inside gradle file.

Task 2: Implement UI for Each Activity and Fragment

- Create layout file for main login screen.
- Create layout file for login entry screen.
- Create layout for AppBar.
- Create layout for menu that contains all news categories.
- Create layout for Trending News display screen.
- Create layout for Favorite News display screen.
- Create layout for Settings screen.
- Create layout for AdMob Screen.
- Create layout for Content-News display screen with FAB in it.
- Create layout for snackbar.
- Create layout for widget display.
- Create layout for About.
- Create layout for Contact us.

Task 3: Your Next Task

- Implement LoginActivity to login into app using Firebase service for FB, google authentications or self signin operation and send email after successful registration.
- Implement gradle dependencies for Javalibrary
- Create JavaLibrary to implement all Entity and DAO classes.
- Implement gradle dependencies for androidlibrary
- Create Androidlibrary to implement all display operations to the layout.
- Implement gradle dependencies for backend web service running in GCE.
- Implement backend service to expose a webservice url to retrieve user information's

Task 4: Your Next Task

- Implement TrendingNewsActivity to retrieve trending news via a webservice call using Volley.
- Implement gradle dependencies for Javalibrary
- Create JavaLibrary to implement all Entity and DAO classes.
- Implement gradle dependencies for androidlibrary
- Create Androidlibrary to implement all display operations to the layout.

- Implement gradle dependencies for backend web service running in GCE.
- Implement backend service to expose a webservice url to retrieve user information's

Task 5: Your Next Task

- Implement FavoriteNewsActivity to retrieve favorite news from user favorite news database
- Implement gradle dependencies for Javalibrary
- Create JavaLibrary to implement all Entity and DAO classes.
- Implement gradle dependencies for androidlibrary
- Create Androidlibrary to implement all display operations to the layout.
- Implement gradle dependencies for backend web service running in GCE.
- Implement backend service to expose a webservice url to retrieve user information's

Task 6: Your Next Task

- Implement SettingsActivity to retrieve user settings from user info database running in GCE. Handle no internet connectivity issue to disable list items in settings screen.
- Implement gradle dependencies for Javalibrary
- Create JavaLibrary to implement all Entity and DAO classes.
- Implement gradle dependencies for androidlibrary
- Create Androidlibrary to implement all display operations to the layout.
- Implement gradle dependencies for backend web service running in GCE.
- Implement backend service to expose a webservice url to retrieve user information's

Task 7: Your Next Task

- Implement ContentNewsActivity to retrieve news content.
- Implement gradle dependencies for Javalibrary
- Create JavaLibrary to implement all Entity and DAO classes.
- Implement gradle dependencies for androidlibrary
- Create Androidlibrary to implement all display operations to the layout.
- Implement gradle dependencies for backend web service running in GCE.
- Implement backend service to expose a webservice url to retrieve user information's

Task 8: Your Next Task

- Implement SnackBarActivity for internet connectivity retry actions.
- Implement WidgetDisplayActivity to retrieve country list from news database.
- Implement gradle dependencies for Javalibrary
- Create JavaLibrary to implement all Entity and DAO classes.
- Implement gradle dependencies for androidlibrary
- Create Androidlibrary to implement all display operations to the layout.
- Implement gradle dependencies for backend web service running in GCE.
- Implement backend service to expose a webservice url to retrieve user information's

Task 9: Your Next Task

- Implement NewsCategoryActivity to retrieve trending news of categories in menu items as well as for each trending news in widget menu items.
- Implement gradle dependencies for Javalibrary
- Create JavaLibrary to implement all Entity and DAO classes.
- Implement gradle dependencies for androidlibrary
- Create Androidlibrary to implement all display operations to the layout.
- Implement gradle dependencies for backend web service running in GCE.
- Implement backend service to expose a webservice url to retrieve user information's

Task 10: Your Next Task

- Implement TermsOfServiceAndPrivacyPolicyActivity to retrieve the information from database.
- Implement gradle dependencies for Javalibrary
- Create JavaLibrary to implement all Entity and DAO classes.
- Implement gradle dependencies for androidlibrary
- Create Androidlibrary to implement all display operations to the layout.
- Implement gradle dependencies for backend web service running in GCE.
- Implement backend service to expose a webservice url to retrieve user information's

Task 11: Your Next Task

- Implement CopyrightActivity to retrieve the information about copyright from database.
- Implement gradle dependencies for Javalibrary
- Create JavaLibrary to implement all Entity and DAO classes.
- Implement gradle dependencies for androidlibrary
- Create Androidlibrary to implement all display operations to the layout.
- Implement gradle dependencies for backend web service running in GCE.
- Implement backend service to expose a webservice url to retrieve user information's

Task 12: Your Next Task

- Create entries into AndroidManifest.xml
- Implement Google Play Services for AdMob
- Implement Google Play Services for FAB
- Implement Google Play Services for location services
- Implement Alerts via Firebase services (If time permits)

Task 13: Your Next Task

- Handle Error Cases
- Create Build Variants
- Create keys

- Create signing and release tasks
- Create unit and instrument test cases.

Task 14: Your Next Task

- Deploy and test the application in phone and tablet