BIRZEIT UNIVERSITY

Advanced Computer Systems Engineering Laboratory – ENCS5150

TODO 2: News Channel

Objective:

Create an Android application simulating a news channel with a moving news ticker (شريط الاخبار) at the bottom, animated news content, and a channel logo.

User Interface:

- Hashtag:
  - A TextView positioned at the top left corner.
  - Displays your first name and last name in PascalCase with a hashtag (e.g., #AliRami).
- Channel logo:
  - An image located at the top right corner.
- News ticker:
  - A red rectangular bar at the bottom with white text scrolling horizontally.
  - Feel free to choose any suitable text to display.
- Background:
  - This is where the news is displayed, featuring a plane, a dolphin, a sea, and a static background image.

Animation Logic:

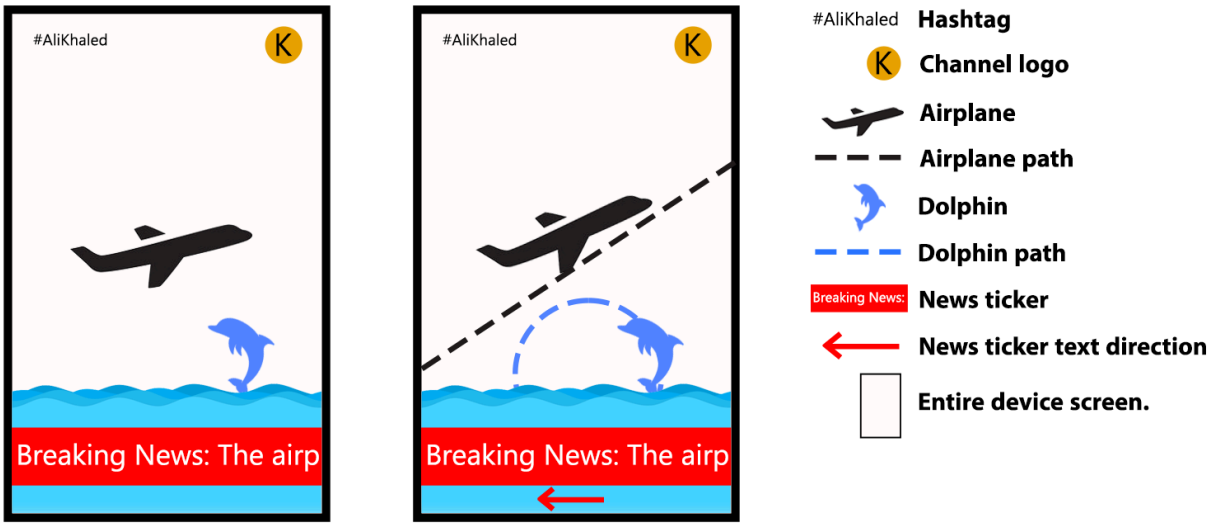
1. Hashtag:
   a. It stays visible for 5 seconds, fades out over 2 seconds, remains invisible for 2 seconds, fades back in over 2 seconds, and stays visible for another 5 seconds. This cycle repeats continuously.
2. Channel Logo:
   a. The channel logo continuously scales along the x-axis, creating the illusion of rotating around itself.
3. News Ticker Animation:
   a. The text on the ticker scrolls continuously to the left across the bottom of the screen.
4. Background:
   a. Animate an incoming airplane that moves from the left side of the screen to the right side, while simultaneously shrinking in size to create the illusion of moving away from the camera.

b. A dolphin jumps out of the water every 6 seconds, rotating in a circle and trying to point its head toward the water (rotating around itself). The duration of the jump is 1.5 seconds. When the dolphin is in the water, it should not be visible.
c. At the bottom of the background, there should be a sea, which is where the dolphin will jump from and into.
d. Choose a suitable static image for the background, such as a daytime sky.

Layers order:

1. Hashtag, news ticker, and logo channel are above all the other layers.
2. The airplane is above the sea and the dolphin.
3. The sea is above the dolphin (this will help hide the dolphin when it is in the water).

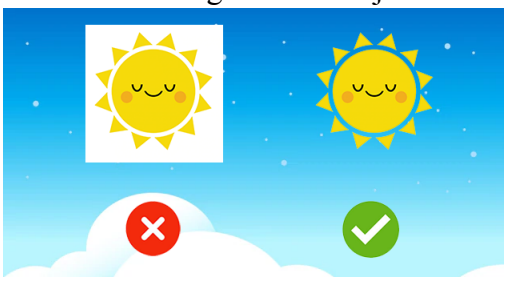
Illustrating the scene:



Logo, airplane, and dolphin animations:

Notes:

- The application will consist of a single activity.
- Utilize PNG images for all objects to achieve a transparent background.



- Don't use abstracted objects (circles/squares ...) to represent the objects in this simulation, instead use clipart/real-life images, for example, choose a real-life news channel logo.
- The size of the objects should be relatively close to the objects in the Figures, avoid very large and very small sizes (e.g. a channel logo that fills half of the screen or a dolphin that is tiny and barely visible).
- Keep a distance between the screen corners and the logo/hashtag, ensuring they do not touch the edges of the screen (as shown in the figure). Also, make sure the dolphin's movement is visible and not obstructed by the news ticker.
- Use a text color that contrasts well with the background. For instance, if the background is light blue, the hashtag should be black or another dark color. Conversely, if the background is dark, the hashtag should be white or another light color.
- Use Pixel 3a XL device with API Level 26.
- Make sure the minimum SDK is API 26.
- ToDo is individual work and cheating/using LLM such as ChatGPT will result in a **0 grade**.
- Ensure that your animations are smooth and free of lag.
- No late submissions whatsoever, if the deadline is about to arrive, submit your work as it is.
- Test your APK before submission, either by installing it to the emulator by dragging and dropping the app-debug.apk file into the emulated phone, or by installing it to your personal Android phone. At least one mark will be deducted for submitting a faulty APK file.
- What to submit:
    - **Project.zip** file (Size in KB)
      From Android Studio: File → Export → Export to Zip File
    - **app-debug.apk** file (Size in MB)
      From Android Studio: Build → Build Bundle(s) / APK(s) → Build APK(s)
      You will find the APK file under "app\build\outputs\apk\debug\app-debug.apk"

  Send both the APK file and the ZIP file as a reply to my message.

- Deadline: **05/08/2024 Midnight (Send it before 06/08/2024)**