19CSE463- Mobile Application - Project Report

Title: My Diary

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Project Scope:

The **My Diary** mobile application is designed to provide users with a digital platform to document and cherish their daily moments. By integrating multimedia features, smart organization, and personalization options, it caters to the needs of modern diary enthusiasts. Its primary goal is to offer an interactive and visually appealing space for users to reflect, express, and organize their thoughts.

Features:

1. **Rich Entry Creation:**

   o **Multimedia Integration:** Users can attach photos, videos, and other media to their diary entries.

   o **Customization Options:** Multiple themes with support for light and dark modes.

   o **Rich Text Support:** Users can create detailed text entries with advanced formatting options.

   o **Mood Tracking:** Customizable emoji for tracking and expressing emotions.
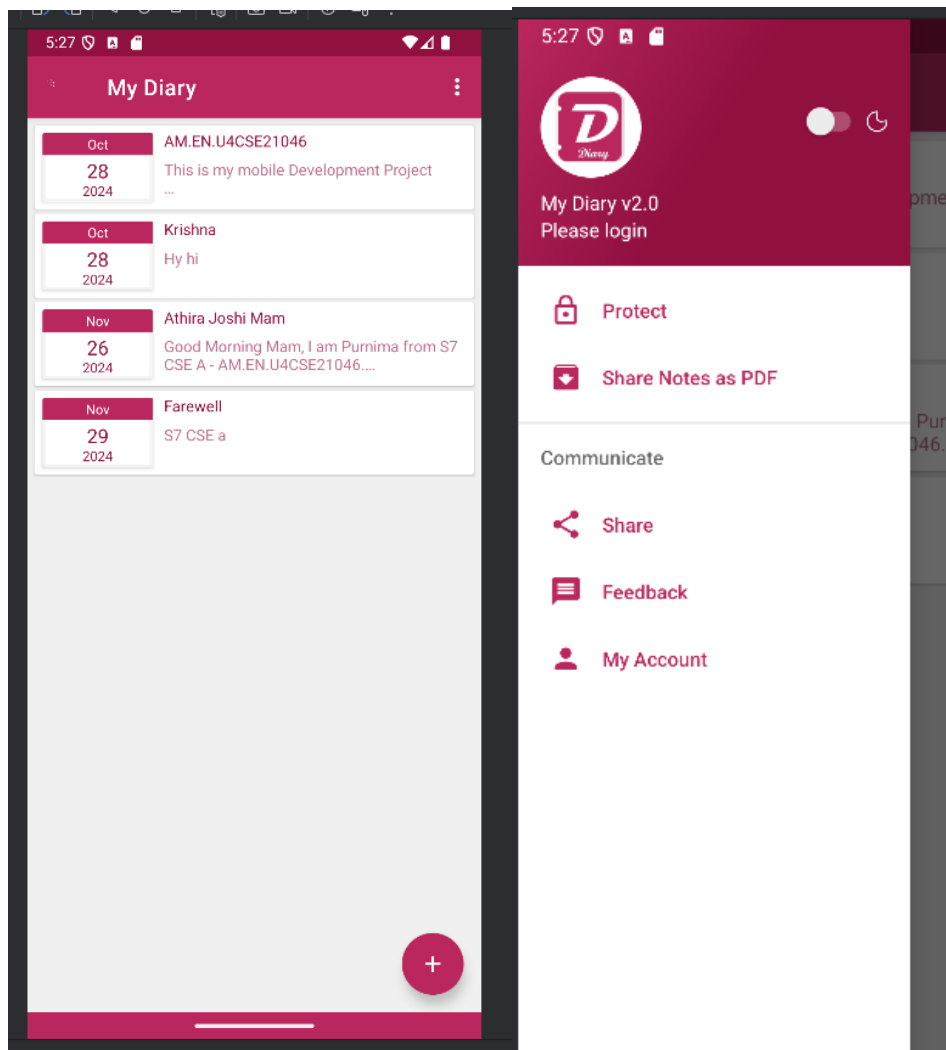
2. **Smart Organization:**

   o **Dynamic Categories:** Entries are categorized and searchable.

   o **Calendar View:** A calendar interface organizes entries by date, offering easy navigation through past reflections.

Design of the Mobile App:
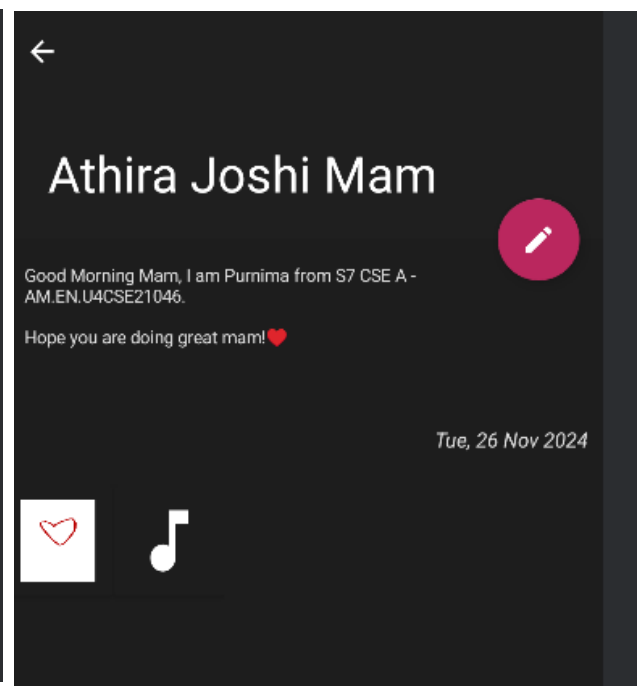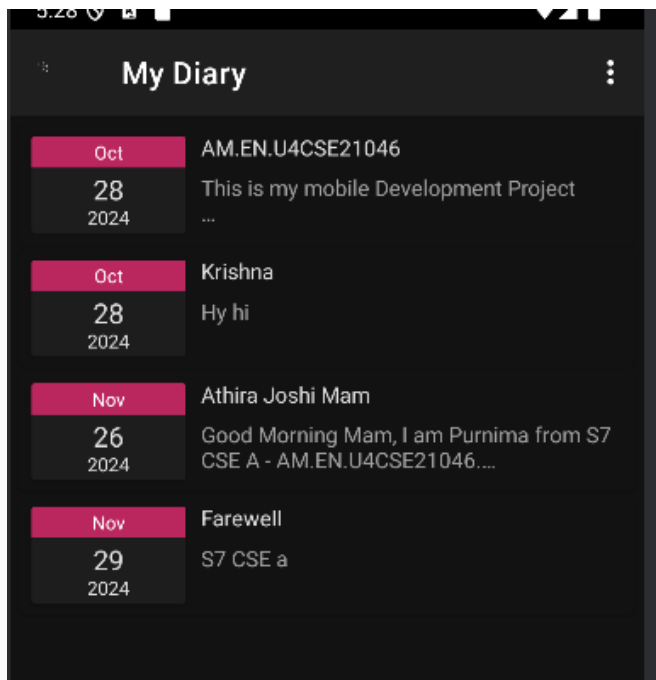
Wireframe/Flow Design:

- **Home Screen:** Displays recent entries and a navigation menu.

- **Create Entry:** A rich-text editor with options to attach media and mood trackers.

- **Calendar View:** Shows entries in an interactive calendar format.

- **Settings:** Theme customization options, including dark mode toggle.

Screenshots of the Frontend:

- **Home Screen:** Show a screenshot of the homepage with recent diary entries.
- **Create Entry:** Screenshot demonstrating the text editor, media attachment, and mood tracker features.
- **Calendar View:** Screenshot of the calendar interface with entries highlighted by date.
- **Settings Page:** Display theme selection and other personalization settings.

Code Snippets:

1. Fragment Implementation:

```java
@Override  2 usages
public boolean onPreferenceStartFragment(PreferenceFragmentCompat caller, Preference pref) {
    // Instantiate the new Fragment
    final Bundle args = pref.getExtras();
    final Fragment fragment = getSupportFragmentManager().getFragmentFactory().instantiate(
            getClassLoader(),
            pref.getFragment());
    fragment.setArguments(args);
    fragment.setTargetFragment(caller, requestCode: 0);
    // Replace the existing Fragment with the new Fragment
    getSupportFragmentManager().beginTransaction()
            .replace(R.id.settings, fragment)
            .addToBackStack( name: null)
            .commit();
    setTitle(pref.getTitle());
    return true;
}
```

2. Intent for Media Attachment:

```java
public class Intent implements Parcelable, Cloneable {  1 inheritor
    public static final String ACTION_AIRPLANE_MODE_CHANGED = "android.intent.action.AIRPLANE_MODE";
    public static final String ACTION_ALL_APPS = "android.intent.action.ALL_APPS";
    public static final String ACTION_ANSWER = "android.intent.action.ANSWER";
    public static final String ACTION_APPLICATION_PREFERENCES = "android.intent.action.APPLICATION_PREFERENCES";
    public static final String ACTION_APPLICATION_RESTRICTIONS_CHANGED = "android.intent.action.APPLICATION_RESTRICTION
    public static final String ACTION_APP_ERROR = "android.intent.action.APP_ERROR";
    public static final String ACTION_ASSIST = "android.intent.action.ASSIST";
    public static final String ACTION_ATTACH_DATA = "android.intent.action.ATTACH_DATA";
    public static final String ACTION_AUTO_REVOKE_PERMISSIONS = "android.intent.action.AUTO_REVOKE_PERMISSIONS";
    public static final String ACTION_BATTERY_CHANGED = "android.intent.action.BATTERY_CHANGED";
    public static final String ACTION_BATTERY_LOW = "android.intent.action.BATTERY_LOW";
    public static final String ACTION_BATTERY_OKAY = "android.intent.action.BATTERY_OKAY";
    public static final String ACTION_BOOT_COMPLETED = "android.intent.action.BOOT_COMPLETED";
    public static final String ACTION_BUG_REPORT = "android.intent.action.BUG_REPORT";
    public static final String ACTION_CALL = "android.intent.action.CALL";
    public static final String ACTION_CALL_BUTTON = "android.intent.action.CALL_BUTTON";
    public static final String ACTION_CAMERA_BUTTON = "android.intent.action.CAMERA_BUTTON";
    public static final String ACTION_CARRIER_SETUP = "android.intent.action.CARRIER_SETUP";
    public static final String ACTION_CHOOSER = "android.intent.action.CHOOSER";
```

3. Service for Background Sync:

```java
public class MediaService extends IntentService implements
        MediaPlayer.OnCompletionListener,
        MediaPlayer.OnErrorListener,
        MediaPlayer.OnPreparedListener,
        MediaPlayer.OnSeekCompleteListener,
        AudioManager.OnAudioFocusChangeListener {
    public static final String PLAYER_STATE = "PLAYER_STATE";    6 usages
    public static final String MEDIA_DURATION = "MEDIA_DURATION";    5 usages
    public static final String MEDIA_POSITION = "MEDIA_POSITION";    5 usages
    private int resumePosition = 0;    4 usages
    //Handle incoming phone calls
    private boolean ongoingCall = false;    3 usages
    private PhoneStateListener phoneStateListener;    4 usages
    private TelephonyManager telephonyManager;    3 usages
    private Intent mSendMessageIntent;    8 usages
    private MediaPlayer mMediaPlayer;    47 usages
    private AudioManager mAudioManager;    3 usages
    private String mAudioFile;    4 usages

    public MediaService() { super( name: "MediaService"); }

    private void initMediaPlayer() {    3 usages
        mMediaPlayer = new MediaPlayer();

        mMediaPlayer.setOnCompletionListener(this);
        mMediaPlayer.setOnErrorListener(this);
        mMediaPlayer.setOnPreparedListener(this);
        mMediaPlayer.setOnSeekCompleteListener(this);
        mMediaPlayer.reset();
```

4. Thread for Mood Analytics:

```java
public class Thread extends VMObject {
    private static long tlabFieldOffset;

    private static CIntegerField suspendFlagsField;
    // Thread::SuspendFlags enum constants
    private static int EXTERNAL_SUSPEND;
    private static int EXT_SUSPENDED;
    private static int HAS_ASYNC_EXCEPTION;


    private static AddressField activeHandlesField;
    private static AddressField currentPendingMonitorField;
    private static AddressField currentWaitingMonitorField;
```