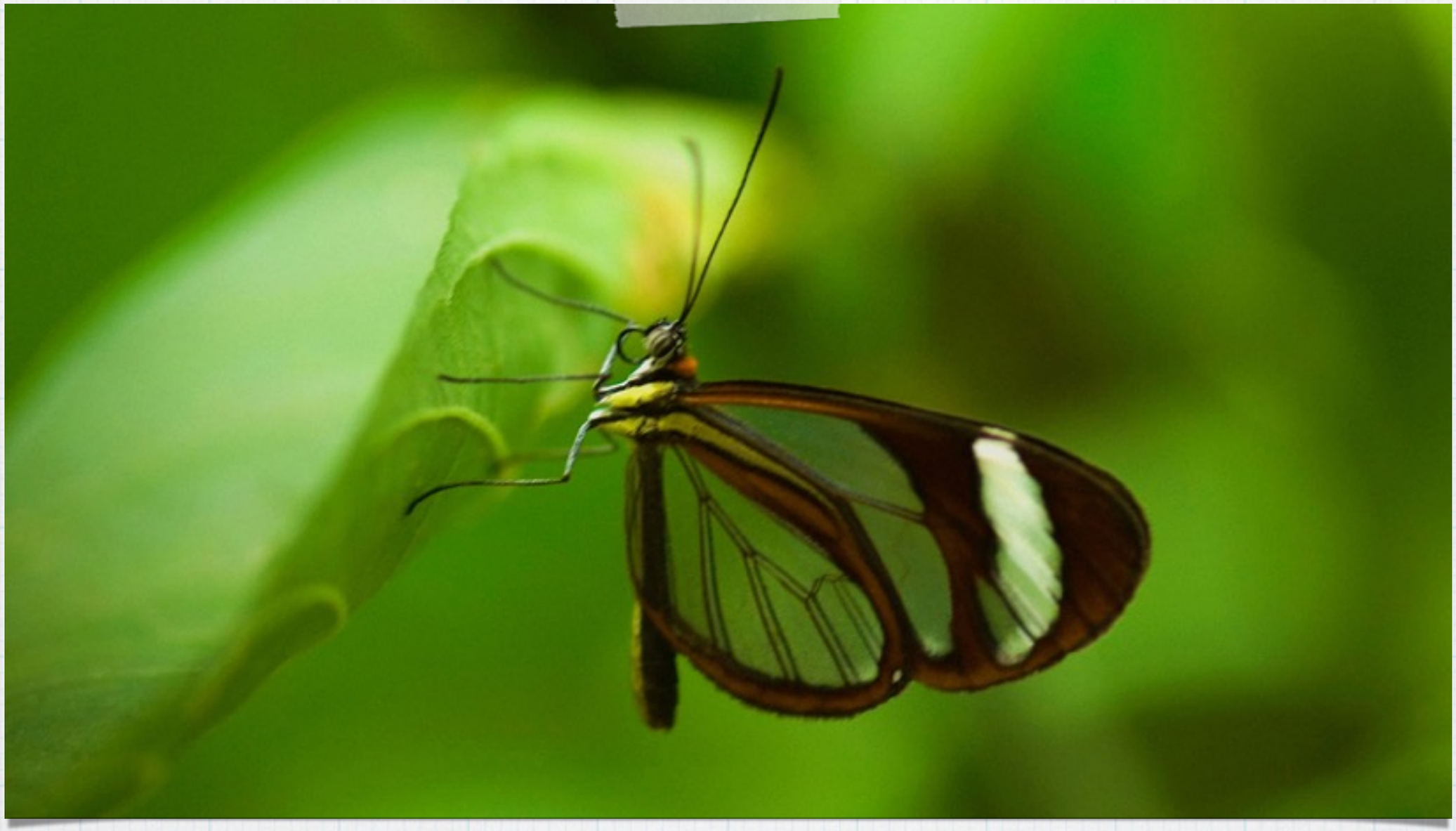
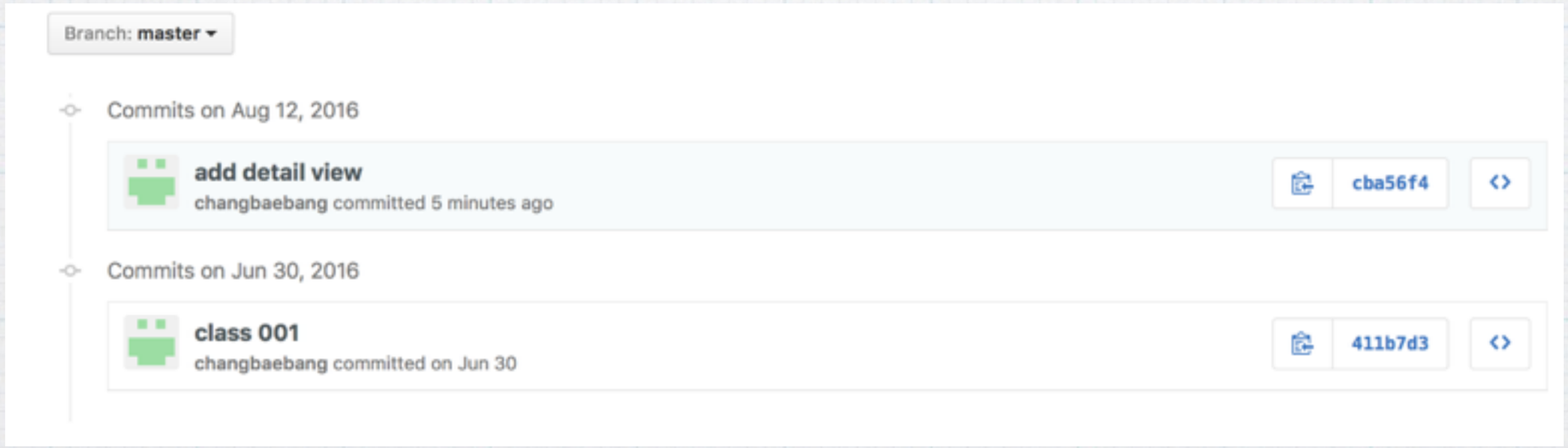


Where U at

전반적인 UI 마무리

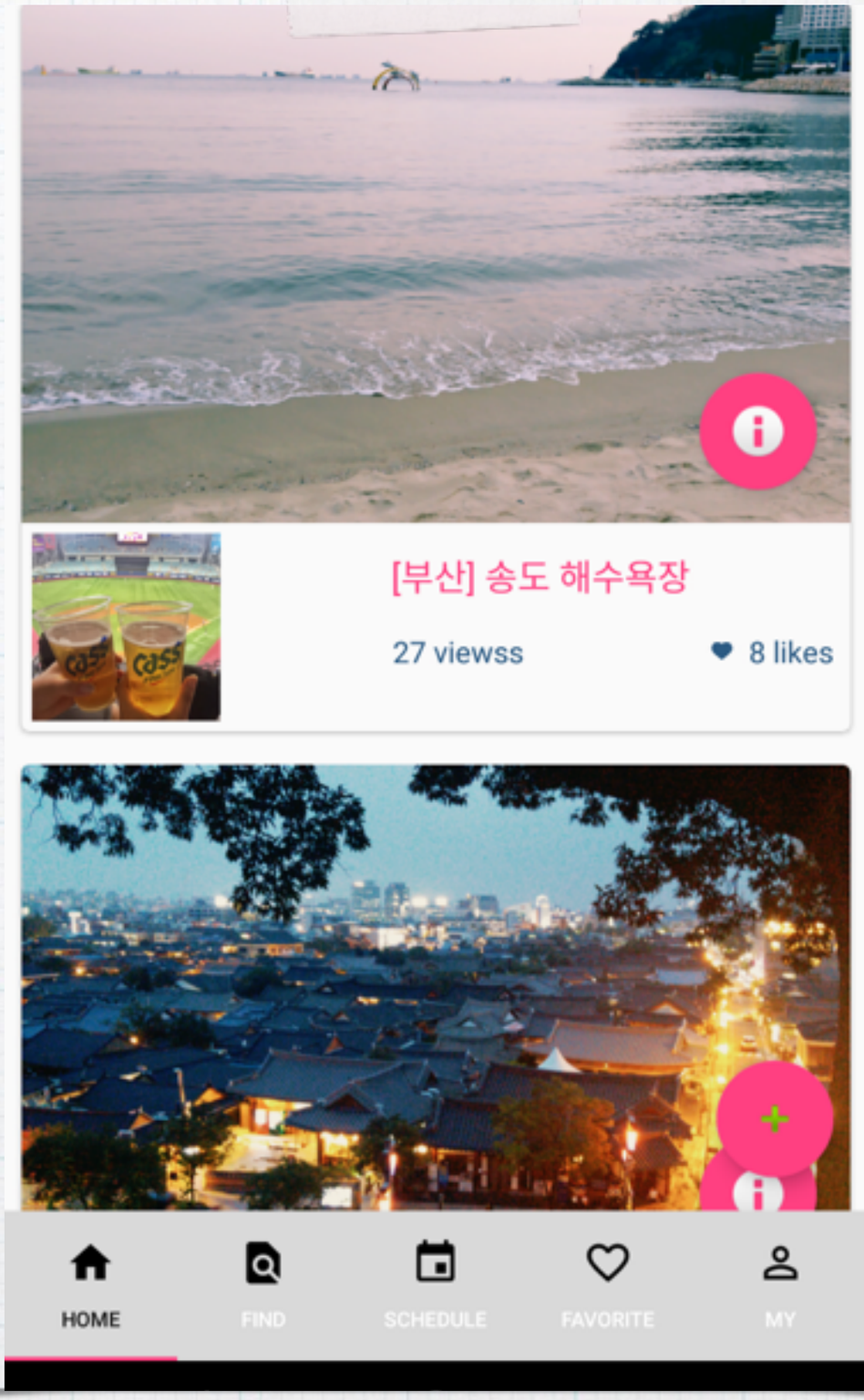
오늘의 Github

* 실습 최종 코드 : https://github.com/hyeyag/WhereUAt



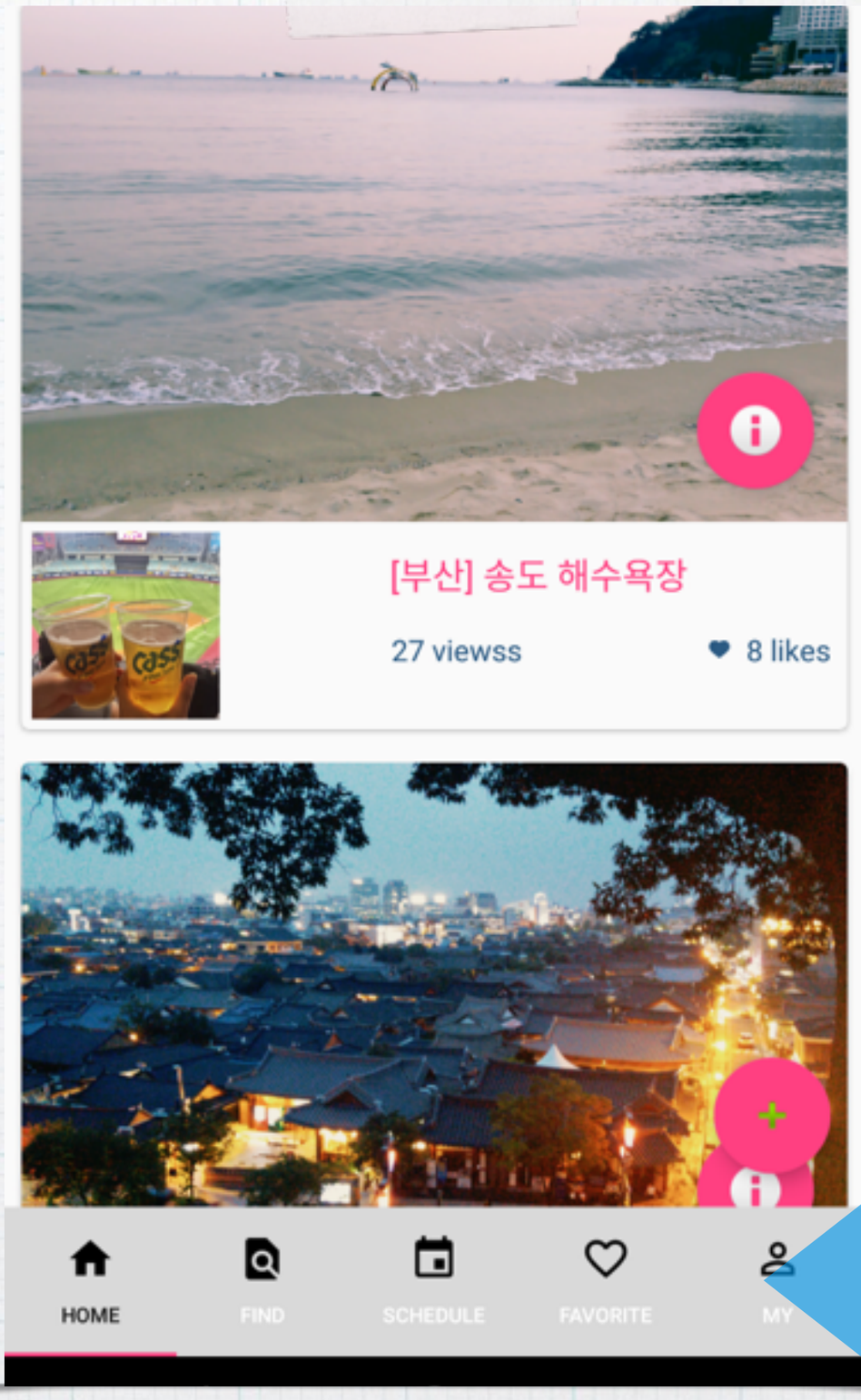
Modify Feedlist

Layout 정리
Code로 List Data 처리
Scroll 속도 처리



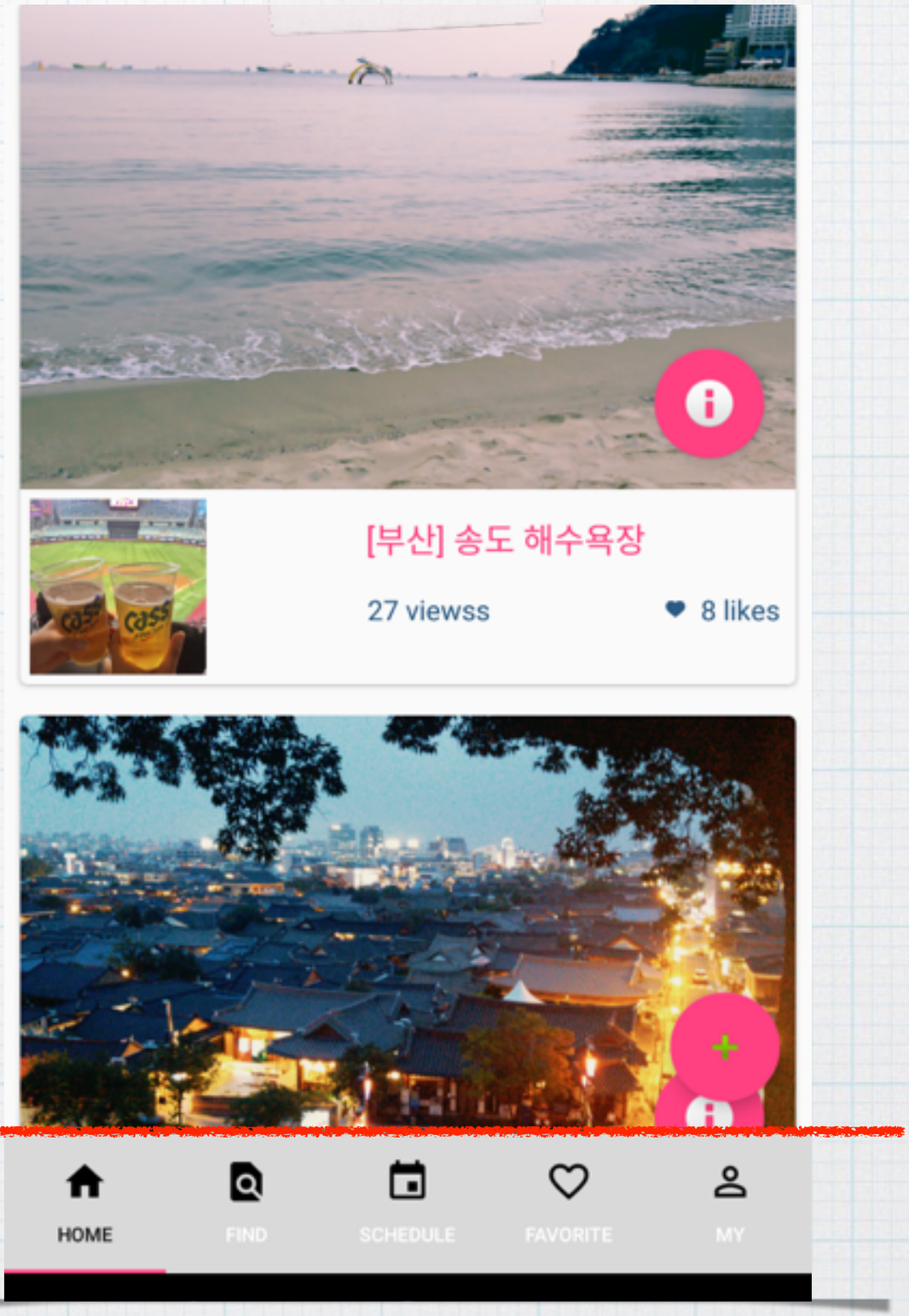
Edit Tab Layout

Tab 영역 수정
List 영역과 분리



activity_main.xml 수정

RelativeLayout을 이용하여 영역 분리



activity_main.xml

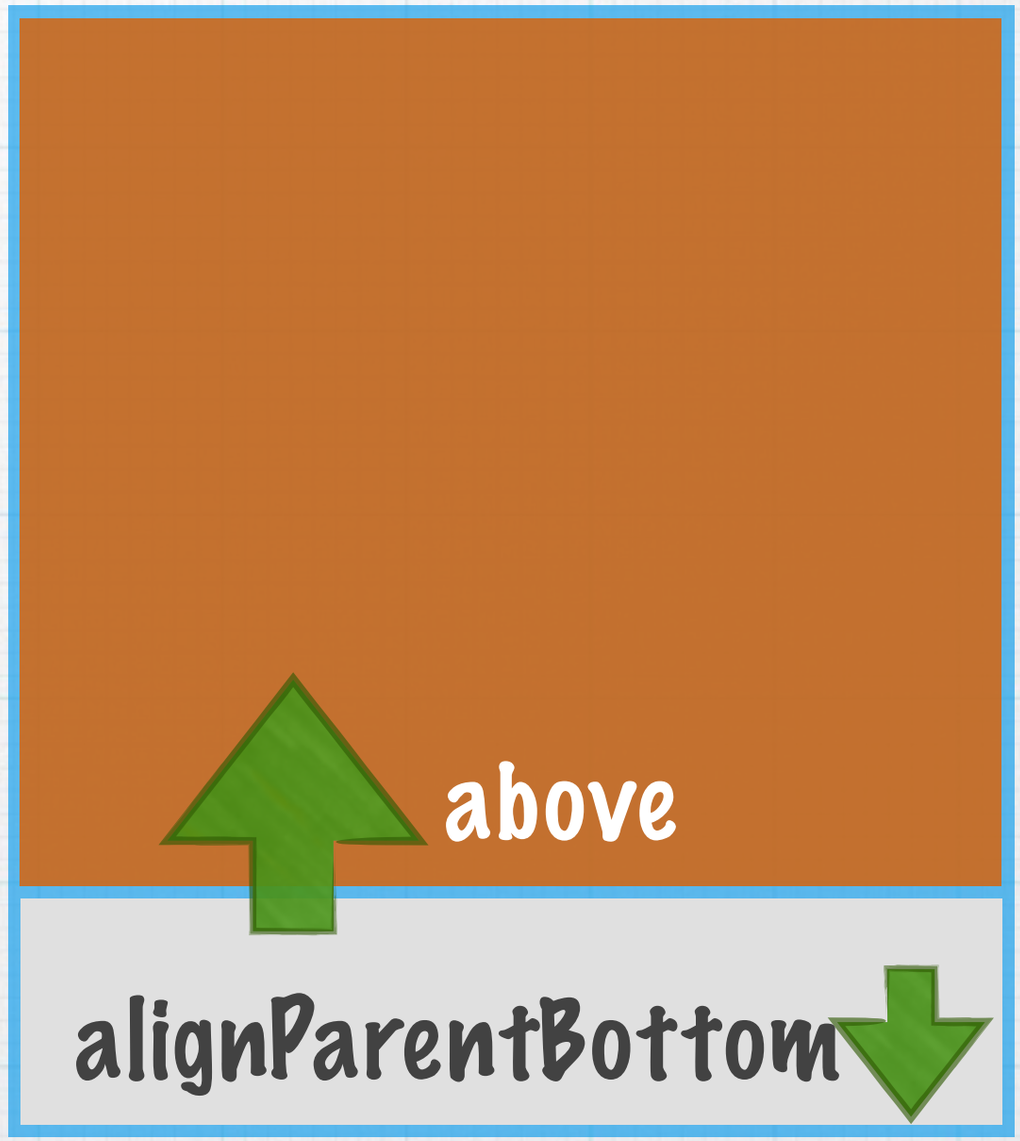
```
<RelativeLayout
            android:layout_width="match_parent"
            android:layout_height=“wrap_content">
    <com.example.bangchangbae.friendlyapplication.common.HistoryMoveViewPager
                android:id="@+id/container"
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:layout_above="@+id/tabs"
                app:layout_behavior="@string/appbar_scrolling_view_behavior"/>
    <android.support.design.widget.TabLayout
                android:id="@+id/tabs"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_alignParentBottom="true"
                app:tabTextAppearance="@style/TabLayoutTextAppearance"
                android:background="#d9d9d9"
                />
        <android.support.design.widget.FloatingActionButton
                android:id="@+id/fab"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_gravity="end|bottom"
                android:layout_margin="@dimen/fab_margin"
                android:layout_above="@+id/tabs"
                android:layout_alignParentRight="true"
                android:src="@android:drawable/ic_input_add" />
</RelativeLayout>
```

relative layout 위치 지정

* 상대 위치 지정

* layout_above : Positions the bottom edge of this view above the given anchor view ID.

* layout_alignParentBottom : If true, makes the bottom edge of this view match the bottom edge of the parent.



tab 영역 스타일 지정

* background : 배경색 지정
* tabTextAoocarance : tab에 사용될 문자 스타일 값지정

value/style.xml

```
<style name="TabLayoutTextAppearance"
parent="TextAppearance.AppCompat.Widget.ActionBar.Title.Inverse">
    <item name="android:textSize">10sp</item>
    <item name="android:textAllCaps">true</item>
</style>
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.design.widget.CoordinatorLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/main_content"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:fitsSystemWindows="true"
    tools:context="com.example.bangchangbae.friendlyapplication.MainActivity">
        <RelativeLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content">
            <com.example.bangchangbae.friendlyapplication.common.HistoryMoveViewPager
                android:id="@+id/container"
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:layout_above="@+id/tabs"
                app:layout_behavior="@string/appbar_scrolling_view_behavior"/>
            <android.support.design.widget.TabLayout
                android:id="@+id/tabs"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_alignParentBottom="true"
                app:tabTextAppearance="@style/TabLayoutTextAppearance"
                android:background="#d9d9d9"
                />
            <android.support.design.widget.FloatingActionButton
                android:id="@+id/fab"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_gravity="end|bottom"
                android:layout_margin="@dimen/fab_margin"
                android:layout_above="@+id/tabs"
                android:layout_alignParentRight="true"
                android:src="@android:drawable/ic_input_add" />
        </RelativeLayout>
</android.support.design.widget.CoordinatorLayout>
```

History Move ViewPager

* ViewPager에 추가 기능
* History Move 기능 추가
  Stack을 가지고 이동한 index 기억
* Back으로 이동시 page change
  listener 처리

History Move ViewPager

```
public class HistoryMoveViewPager extends ViewPager {
private Stack<Integer> mHistory = new Stack();
private int mPreviousItem = -1;
private List<OnPageChangeListener> mOnPageChangeListenersSaved;
private OnPageChangeListener mOnPageChangeListenerSaved;

public HistoryMoveViewPager(Context context) {
    super(context);
}

public HistoryMoveViewPager(Context context, AttributeSet attrs) {
    super(context, attrs);
}
```

History Move ViewPager

```
@Override
public void setCurrentItem(int item) {
    mPreviousItem = item;
    super.setCurrentItem(item);
    Log.d("viewpager steps", "setCurrentItem item  : " + item + " previousItem : " + mPreviousItem);

}
```

```
@Override
public void setCurrentItem(int item, boolean smoothScroll) {
    mPreviousItem = item;
    super.setCurrentItem(item, smoothScroll);
    Log.d("viewpager steps", "setCurrentItem item  : " + item + " previousItem : " + mPreviousItem);

}

void move(int item, boolean isSaveHistory){
    if(isSaveHistory) {
        int prevItem = (mPreviousItem > -1) ? mPreviousItem : 0;
        Log.d("viewpager steps", "move item  : " + item + " prevItem : " + prevItem);
        mHistory.push(prevItem);
    }
    Log.d("viewpager steps", "move item  : " + item + " isSaveHistory : " + isSaveHistory);
    setCurrentItem(item);
}
```

History Move ViewPager

```
public void Go(int item){
    Log.d("viewpager steps", "Go item  : " + item);
    move(item, true);
}
public boolean Back(){
    Log.d("viewpager steps", "Back history size  : " + mHistory.size());
    if(mHistory.size() < 1)
        return false;
    int preIndex = mHistory.pop();
    String history;
    history = "";
    Log.d("viewpager steps", "preIndex  : " + preIndex);
    for(int i=0; i<mHistory.size();i++) {
        history += mHistory.get(i) + " ";
    }
    Log.d("viewpager steps", "Back history   : " + history);
    Log.d("viewpager steps", "Back history size  : " + mHistory.size());

    preventOnPageChangeEvent();
    move(preIndex, false);
    restoreOnPageChangeListener();
    Log.d("viewpager steps", "Back history size  : " + mHistory.size());
    return true;
}
```

History Move ViewPager

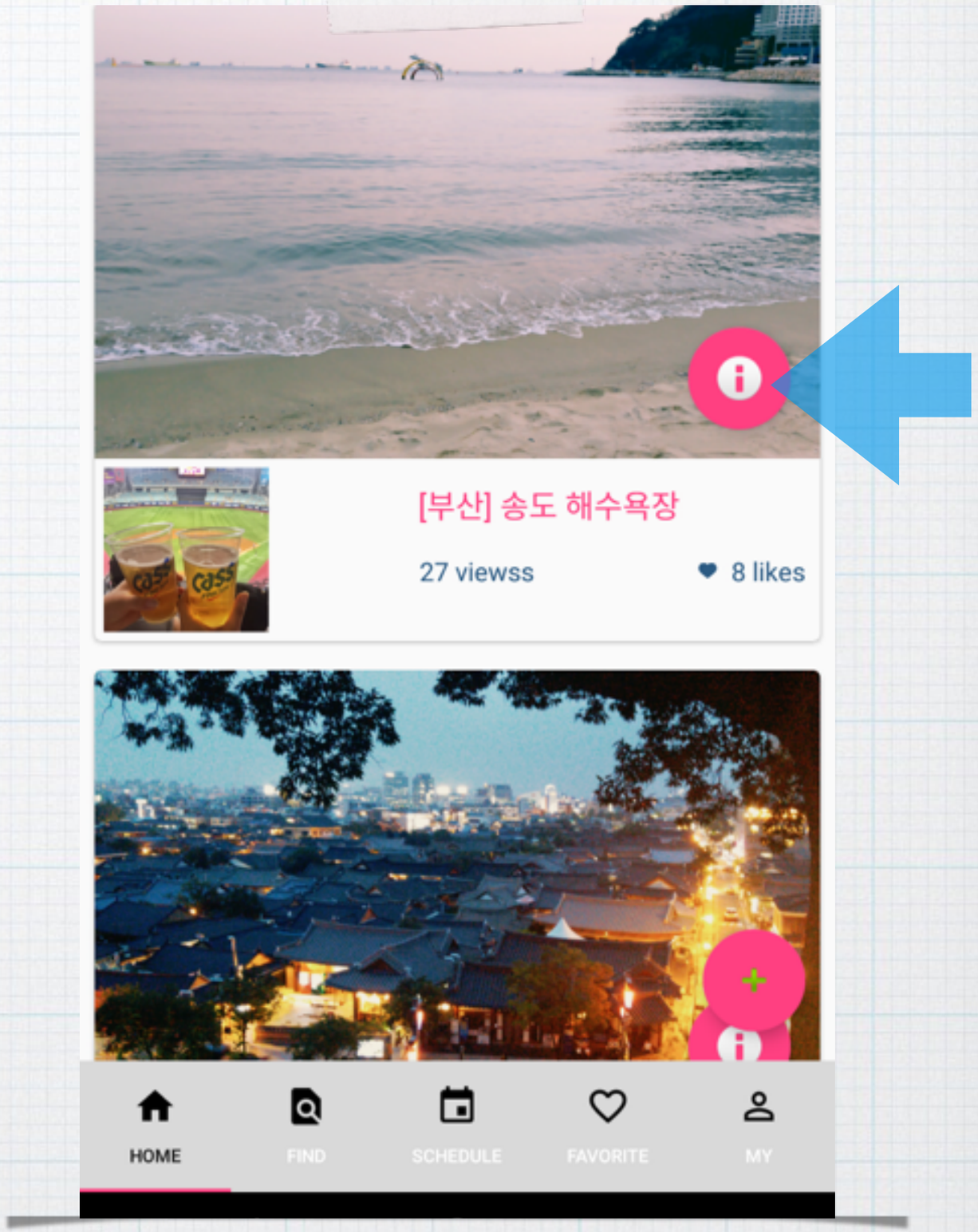
```java
@Deprecated
@Override
public void setOnPageChangeListener(OnPageChangeListener listener) {
    mOnPageChangeListenerSaved = listener;
    super.setOnPageChangeListener(listener);
}

@Override
public void addOnPageChangeListener(OnPageChangeListener listener) {
    if (mOnPageChangeListenersSaved == null) {
        mOnPageChangeListenersSaved = new ArrayList<>();
    }
    mOnPageChangeListenersSaved.add(listener);
    super.addOnPageChangeListener(listener);
}

@Override
public void removeOnPageChangeListener(OnPageChangeListener listener) {
    if (mOnPageChangeListenersSaved != null) {
        mOnPageChangeListenersSaved.remove(listener);
    }
    super.removeOnPageChangeListener(listener);
}

@Override
public void clearOnPageChangeListeners() {
    if (mOnPageChangeListenersSaved != null) {
        mOnPageChangeListenersSaved.clear();
    }
    super.clearOnPageChangeListeners();
}
```

History Move ViewPager

```
    private void preventOnPageChangeEvent() {
        super.clearOnPageChangeListeners();
        super.setOnPageChangeListener(null);
    }
    private void restoreOnPageChangeListener(){
        if (mOnPageChangeListenersSaved != null) {
            for (int i = 0, z = mOnPageChangeListenersSaved.size(); i < z; i++) {
                OnPageChangeListener listener = mOnPageChangeListenersSaved.get(i);
                if (listener != null) {
                    super.addOnPageChangeListener(listener);
                }
            }
        }
        super.setOnPageChangeListener(mOnPageChangeListenerSaved);
    }
}
```

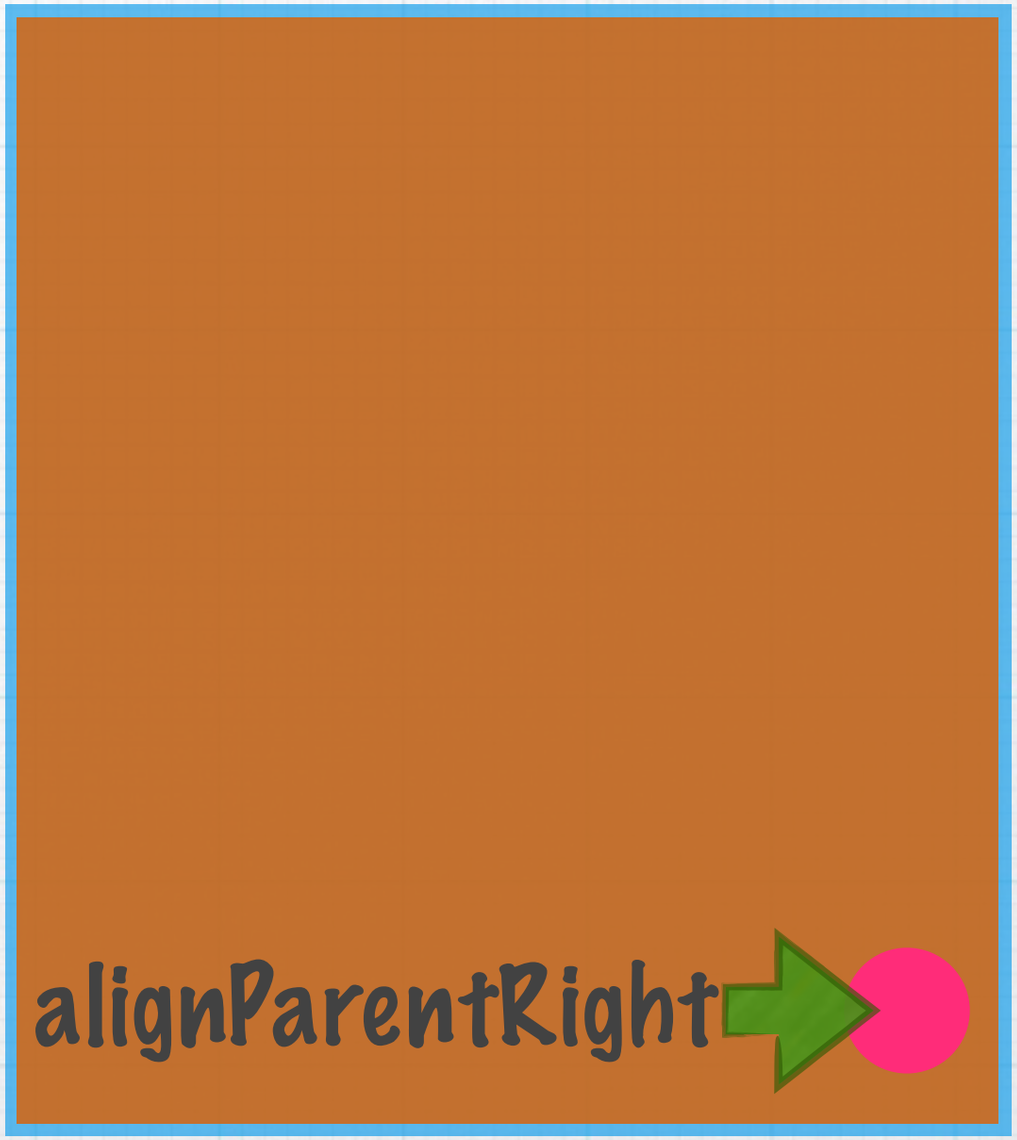
Add Float Button

메인 사진 영역에 **float button** 위치



relative layout 위치 지정

* layout_alignParent Right : If true, makes the right edge of this view match the right edge of the parent.



item_feed.xml

```
<RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <ImageView
        android:id="@+id/ivFeedCenter"
        android:layout_width="match_parent"
        android:layout_height="250dp"
        android:scaleType="centerCrop"
        android:layout_weight="1"
        android:contentDescription="content image" />
    <android.support.design.widget.FloatingActionButton
        android:id="@+id/fab"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/ivFeedCenter"
        android:layout_alignParentRight="true"
        android:layout_margin="@dimen/fab_margin"
        android:src="@android:drawable/ic_dialog_info" />
</RelativeLayout>
```

item_feed.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.v7.widget.CardView xmlns:android="http://schemas.android.com/apk/res/
android"
    xmlns:card_view="http://schemas.android.com/apk/res-auto"
    android:id="@+id/card_view"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_margin="8dp"
    card_view:cardCornerRadius="4dp">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">
        <RelativeLayout
            android:layout_width="match_parent"
        android:layout_height="wrap_content">
        <ImageView
            android:id="@+id/ivFeedCenter"
            android:layout_width="match_parent"
            android:layout_height="250dp"
            android:scaleType="centerCrop"
            android:layout_weight="1"
            android:contentDescription="content image" />
        <android.support.design.widget.FloatingActionButton
            android:id="@+id/fab"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignBottom="@+id/ivFeedCenter"
            android:layout_alignParentRight="true"
            android:layout_margin="@dimen/fab_margin"
            android:src="@android:drawable/ic_dialog_info" />
    </RelativeLayout>
```

item_feed.xml

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal">
    <ImageView
        android:id="@+id/ivUserProfile"
        android:scaleType="centerCrop"
        android:layout_width="90dp"
        android:layout_height="90dp"
        android:layout_margin="5dp"
        android:contentDescription="photo profile" />
    <LinearLayout
android:layout_width="0dp"
android:layout_height="match_parent"
android:orientation="vertical"
android:layout_weight="1">
<TextView
    android:id="@+id/ivFeedTitle"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center"
    android:textSize="17sp"
    android:textColor="@color/colorAccent"
    android:layout_weight="1" />
```

item_feed.xml

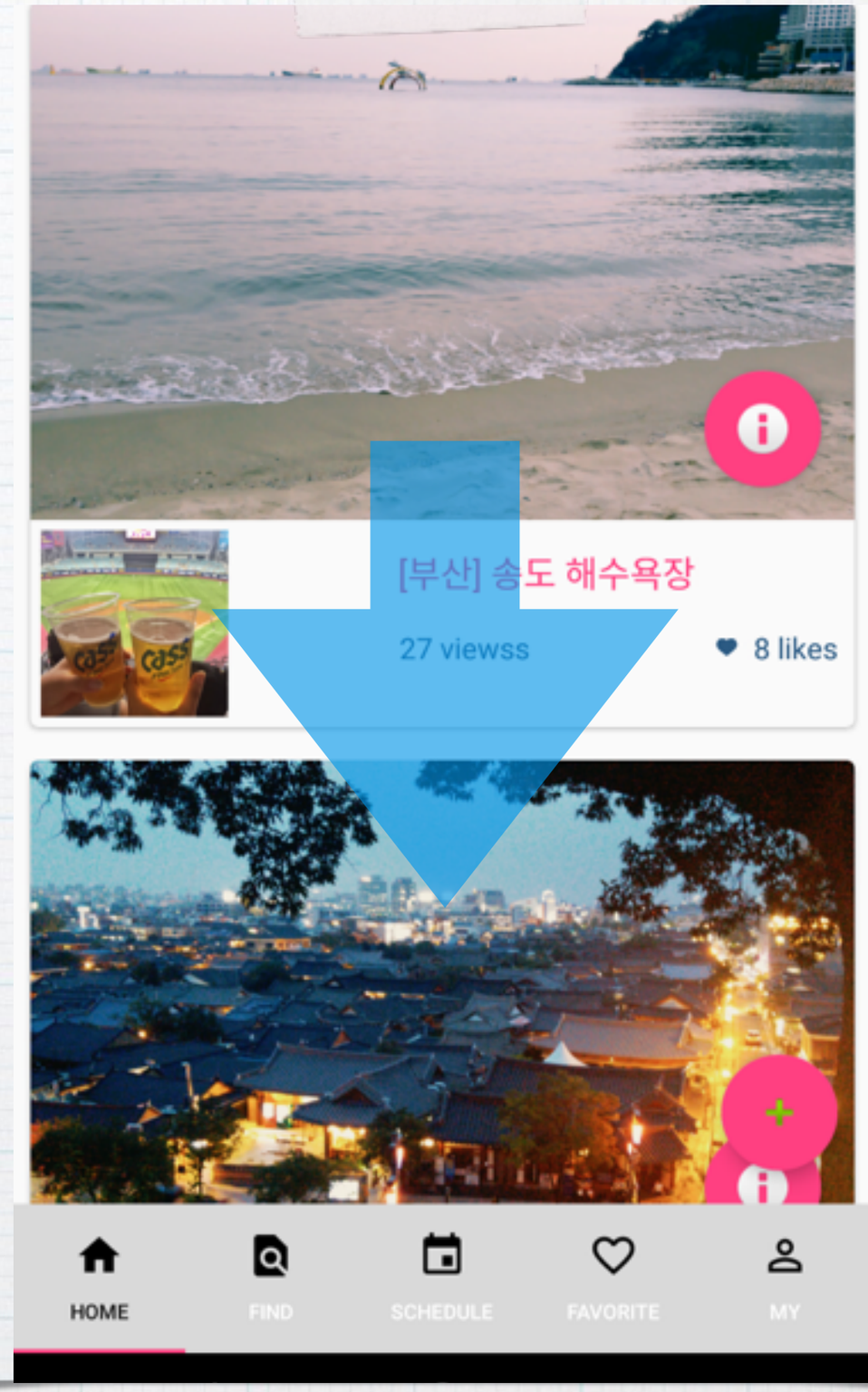
```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    android:layout_weight="1">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:baselineAligned="false">
        <LinearLayout
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:gravity="center_vertical|right">
            <TextSwitcher
            android:id="@+id/tsViewCounter"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="8dp"
            android:layout_marginRight="8dp">

            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:textColor="@color/text_like_counter" />

            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:textColor="@color/text_like_counter" />
        </TextSwitcher>
</LinearLayout>
```

item_feed.xml

```
</LinearLayout>
<LinearLayout
    android:layout_width="0dp"
    android:layout_height="match_parent"
    android:layout_weight="1"
    android:gravity="center_vertical|right">

    <ImageView
        android:layout_width="10dp"
        android:layout_height="10dp"
        android:src="@drawable/ic_heart_small_blue" />

    <TextSwitcher
        android:id="@+id/tsLikesCounter"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="8dp"
        android:layout_marginRight="8dp">

                <TextView
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:textColor="@color/text_like_counter" />

                <TextView
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:textColor="@color/text_like_counter" />
            </TextSwitcher>
        </LinearLayout>

    </LinearLayout>
</LinearLayout>
</LinearLayout>
</LinearLayout>
</android.support.v7.widget.CardView>
```

Smooth Scroller

화면에 보여줄 이미지가
큰 경우, 프로그램이 죽거
나 많이 느려지게 됨
작은 크기로 디코딩하여
스크롤 속도 개선



BitmapFactory.decodeResource

* 이미지 사이즈 확인 :
  inJustDecodeBounds 옵션 사용하여 확인

* 작은 이미지로 디코딩 : **inSampleSize**
  옵션으로 이미지 줄이기

Util.java

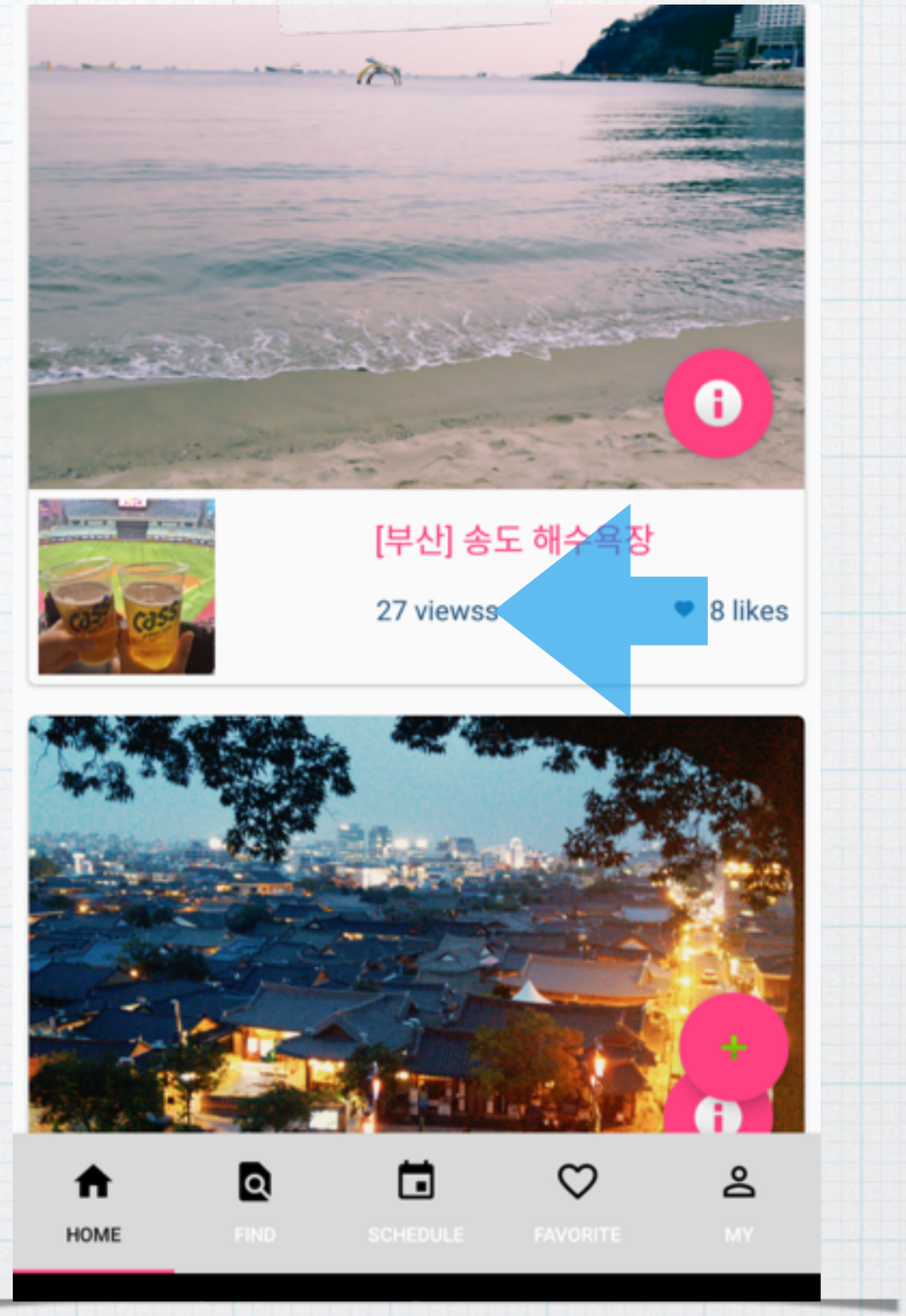
```java
public class Util {
    public static int calculateInSampleSize(
            BitmapFactory.Options options, int reqWidth, int reqHeight) {
        reqWidth = reqWidth > 0 ? reqWidth : 1;
        reqHeight = reqHeight > 0 ? reqHeight : 1;
        // Raw height and width of image
        final int height = options.outHeight;
        final int width = options.outWidth;
        int inSampleSize = 1;

        if (height > reqHeight || width > reqWidth) {
            inSampleSize = 2;

            final int halfHeight = height / 2;
            final int halfWidth = width / 2;

            // Calculate the largest inSampleSize value that is a power of 2 and keeps both
            // height and width larger than the requested height and width.
            while ((halfHeight / inSampleSize) >= reqHeight
                    || (halfWidth / inSampleSize) >= reqWidth) {
                inSampleSize *= 2;
            }
        }

        Log.d("check sampleSize", "inSampleSize : " + inSampleSize);
        return inSampleSize;
    }
```

Util.java

```java
public static Bitmap decodeSampledBitmapFromResource(Resources res, int resId,
                                                     int reqWidth, int reqHeight) {
    // First decode with inJustDecodeBounds=true to check dimensions
    final BitmapFactory.Options options = new BitmapFactory.Options();
    options.inJustDecodeBounds = true;
    BitmapFactory.decodeResource(res, resId, options);

    int requestWidth = reqWidth > 0 ? reqWidth : 0;
    int requestHeight = reqHeight > 0 ? reqHeight : 0;
    int originWidth = options.outWidth;
    int originHeight = options.outHeight;
    float rate = 0.0f;

    if (requestWidth == 0 && requestHeight == 0) {
        Log.e("decode", "request too small size");
    } else if (requestHeight == 0) {
        rate = (float) requestWidth / (float) originWidth;
        requestHeight = (int) (originHeight * rate);
    } else if (requestWidth == 0) {
        rate = (float) requestHeight / (float) originHeight;
        requestWidth = (int) (originWidth * rate);
    } else {
        rate = (float) requestWidth / (float) originWidth;
        if (reqHeight < requestHeight * rate) {
            requestHeight = (int) (originHeight * rate);
        } else {
            rate = (float) requestHeight / (float) originHeight;
            requestWidth = (int) (originWidth * rate);
        }
    }

    // Calculate inSampleSize
    options.inSampleSize = calculateInSampleSize(options, requestWidth, requestHeight);
    Log.d("decode", "request width : " + reqWidth + " height : " + reqHeight);
    Log.d("decode", "cal request width : " + requestWidth + " height : " + requestHeight);
    Log.d("decode", "origin width : " + options.outWidth + " height : " + options.outHeight);
    Log.d("decode", "inSampleSize : " + options.inSampleSize);

    // Decode bitmap with inSampleSize set
    options.inJustDecodeBounds = false;
    return BitmapFactory.decodeResource(res, resId, options);
}
}
```

Init Data for Cardview

item_feed.xml 내
hardcoding string 지우기
holder에 알맞는 값 bind



MyFeed

* 사용할 사진 **resource id** 및 데이터 저장

MyFeed.java

```java
public class MyFeed {
    public int feed_img_src = 0;
    public int profile_img_src = 0;
    public String title_name = null;
    public int views_number = 0;
    public int likes_number = 0;
    public MyFeed(int feed_img_src, int profile_img_src,
                String title_name, int views_number, int likes_number){
        this.feed_img_src = feed_img_src;
        this.profile_img_src = profile_img_src;
        this.title_name = title_name;
        this.views_number = views_number;
        this.likes_number = likes_number;
    }
}
```

Util.decodeSampledBitmapFromResource

* 이미지 사이즈 확인 :
  inJustDecodeBounds 옵션 사용하여 확인

* 작은 이미지로 디코딩 : **inSampleSize**
  옵션으로 이미지 줄이기

MyFeedListAdapter.java

```
public class MyFeedListAdapter extends RecyclerView.Adapter<MyFeedListAdapter.ViewHolder> {
    private List<MyFeed> myList;
    private Context mContext;

    public MyFeedListAdapter(Context context) {
        this.myList = new ArrayList<>();
        this.mContext = context;
        this.update();
    }
    public void update(){
        this.myList.clear();
        MyFeed one = new MyFeed(R.drawable.songdo, R.drawable.mac, "[부산] 송도 해수욕장", 27, 8);
        MyFeed two = new MyFeed(R.drawable.junju, R.drawable.mon, "[전주] 전주 한옥마을", 34, 10);
        MyFeed three = new MyFeed(R.drawable.dome, R.drawable.hyo, "[구로] 고척 스카이돔", 52, 21);
        myList.add(one);
        myList.add(two);
        myList.add(three);
        myList.add(one);
        myList.add(two);
        myList.add(three);
        myList.add(one);
        myList.add(two);
        myList.add(three);
    }

    @Override
    public ViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {
        View v = LayoutInflater.from(parent.getContext()).inflate(R.layout.item_feed, parent, false);
        return new ViewHolder(v);

    }
```

MyFeedListAdapter.java

```
    @Override
    public void onBindViewHolder(final ViewHolder holder, int position) {
        Log.d("view index", "recycler index : " + position);
        MyFeed my = myList.get(position);

        //new DownloadImageTask(holder.mFeedCenterImageView).execute(my.feed_img_src);
        int mFeedCenterImageWidth = holder.mFeedCenterImageView.getLayoutParams().width;
        int mFeedCenterImageHeight = holder.mFeedCenterImageView.getLayoutParams().height;
        Bitmap mFeedCenterImageBitmap = resizeResource(my.feed_img_src, mFeedCenterImageWidth,
mFeedCenterImageHeight);
        holder.mFeedCenterImageView.setImageBitmap(mFeedCenterImageBitmap);

        //new DownloadImageTask(holder.mProfileImageView).execute(my.profile_img_src);
        int mProfileImageViewWidth = holder.mProfileImageView.getLayoutParams().width;
        int mProfileImageViewHeight = holder.mProfileImageView.getLayoutParams().height;
        Bitmap mProfileImageBitmap = resizeResource(my.profile_img_src, mProfileImageViewHeight,
mProfileImageViewWidth);
        holder.mProfileImageView.setImageBitmap(mProfileImageBitmap);

        holder.mFeedTitleTextView.setText(my.title_name);

holder.mLikesNumberTextSwitcher.setCurrentText(holder.mView.getResources().getQuantityString(R.plurals.likes_count,
my.likes_number, my.likes_number));

holder.mViewsNumberTextSwitcher.setCurrentText(holder.mView.getResources().getQuantityString(R.plurals.views_count,
my.views_number, my.views_number));

    }

    @Override
    public int getItemCount() {
        return myList.size();
    }
```

MyFeedListAdapter.java

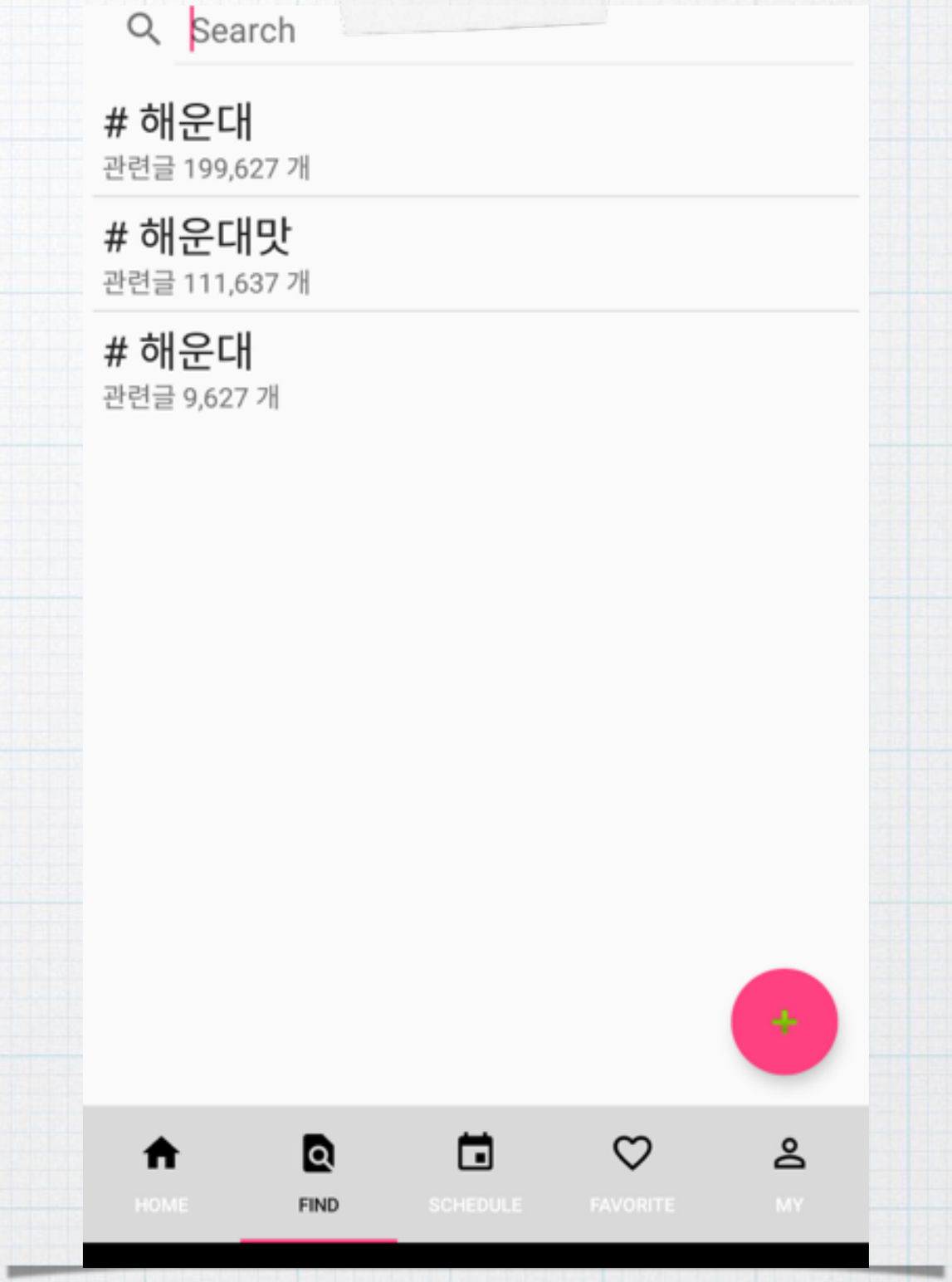
```
public class ViewHolder extends RecyclerView.ViewHolder {
    public final View mView;
    public final ImageView mFeedCenterImageView;
    public final ImageView mProfileImageView;
    public final TextView mFeedTitleTextView;
    public final TextSwitcher mLikesNumberTextSwitcher;
    public final TextSwitcher mViewsNumberTextSwitcher;

    public ViewHolder(View view) {
        super(view);
        mView = view;
        mFeedCenterImageView = (ImageView) view.findViewById(R.id.ivFeedCenter);
        mProfileImageView = (ImageView) view.findViewById(R.id.ivUserProfile);
        mFeedTitleTextView = (TextView) view.findViewById(R.id.ivFeedTitle);
        mLikesNumberTextSwitcher = (TextSwitcher) view.findViewById(R.id.tsLikesCounter);
        mViewsNumberTextSwitcher = (TextSwitcher) view.findViewById(R.id.tsViewCounter);
    }

}
```

MyFeedListAdapter.java

```
    private Bitmap resizeResource(int imageResourceId, int width, int
height){
            return Util.decodeSampledBitmapFromResource(mContext.getResources(),
imageResourceId, width, height);
        }
}
```

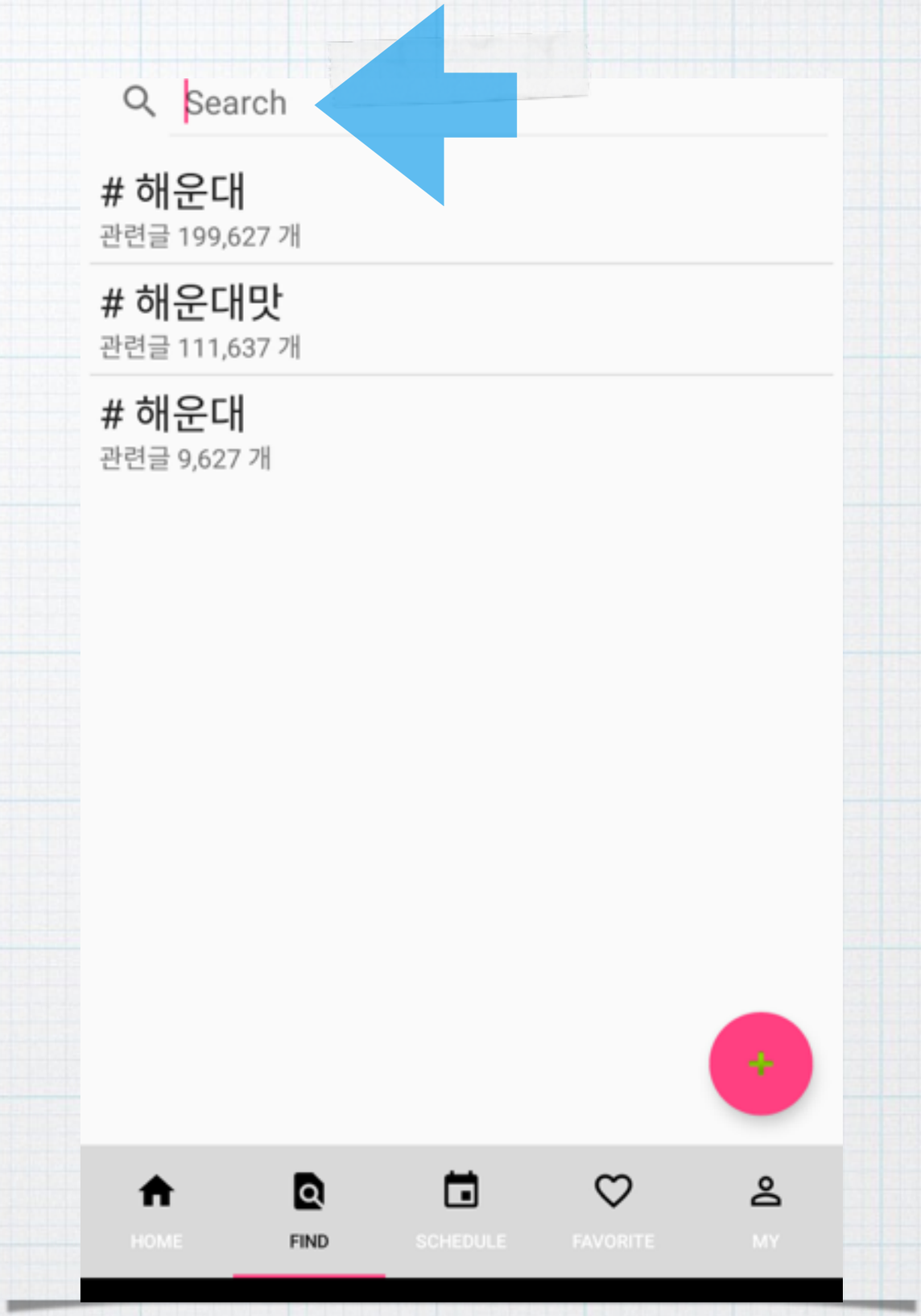
Search UI 와 List

새로 layout을 구성
LinearLayout 을 이용하여
item_detail.xml 을 구성



Add Search UI

새로 layout을 구성
LinearLayout 을 이용하여
item_detail.xml 을 구성



SearchView

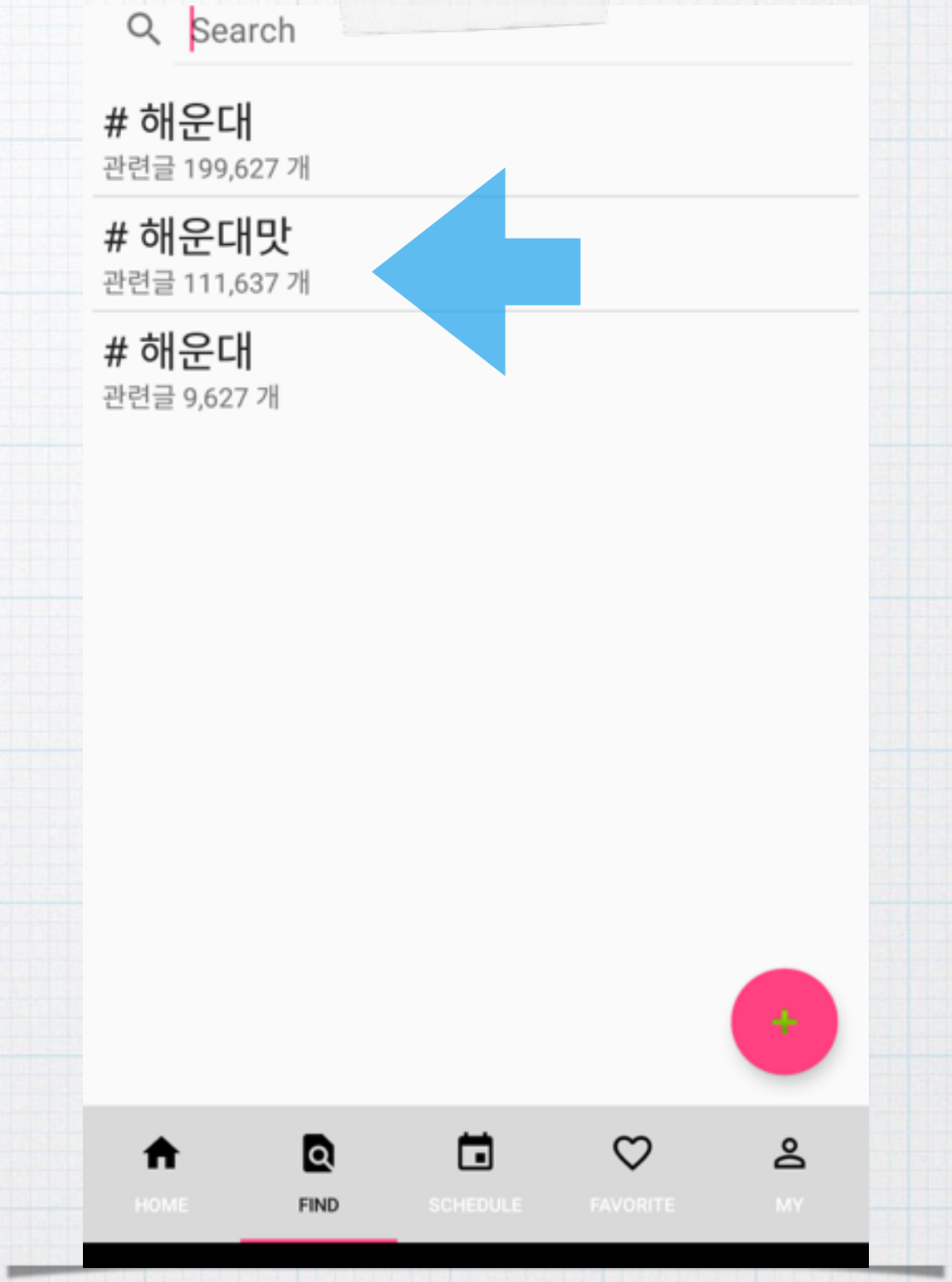
* search 에 필요한 UI
* queryHint 로 기본 문자열 설정

search_layout.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <android.support.v7.widget.SearchView
        android:id="@+id/favorite_search"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:queryHint="Search"
        app:iconifiedByDefault="false"
        />
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        style="@style/ListWrapper">
        <ListView
            android:id="@+id/search_result_list"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"></ListView>

    </LinearLayout>

</LinearLayout>
```

Add Listview

새로 layout을 구성
LinearLayout 을 이용하여
item_detail.xml 을 구성



BaseAdapter

* search 결과를 나타내기 위해 List view 사용
* ListView Data를 나타내기 위해 기본 아답터 사용

MySearchResult.java

```java
public class MySearchResult {
    public enum SearchType{
        NONE,
        HASH_TAG,
        LOCATION,
        PERSION_ID
    }
    public SearchType mType = SearchType.NONE;
    public String mResultTitle = "";
    public String mSubscribe = "";

    public MySearchResult(SearchType type, String title, String subscribe){
        mType = type;
        mResultTitle = title;
        mSubscribe = subscribe;
    }
}
```

ResultAdapter.java

```
public class ResultAdapter extends BaseAdapter {
    private Context mContext;
    private List<MySearchResult> mResultList;
    public ResultAdapter(Context context) {
        this.mContext = context;
        this.mResultList = new ArrayList<>();
        MySearchResult one = new MySearchResult(MySearchResult.SearchType.HASH_TAG, "해운대", "관련글 199,627 개");
        MySearchResult two = new MySearchResult(MySearchResult.SearchType.HASH_TAG, "해운대맛", "관련글 111,637 개");
        MySearchResult three = new MySearchResult(MySearchResult.SearchType.HASH_TAG, "해운대", "관련글 9,627 개");
        this.mResultList.add(one);
        this.mResultList.add(two);
        this.mResultList.add(three);
    }

    @Override
    public int getCount() {
        return mResultList.size();
    }

    @Override
    public Object getItem(int position) {
        return mResultList.get(position);
    }

    @Override
    public long getItemId(int position) {
        return position;
    }
```

ResultAdapter.java

```
    @Override
    public View getView(int position, View convertView, ViewGroup parent) {
        final int pos = position;
        if (convertView == null){
            convertView =
LayoutInflater.from(parent.getContext()).inflate(R.layout.item_search_result, parent, false);

            TextView titleTextView = (TextView)convertView.findViewById(R.id.search_title);
            String type = mResultList.get(pos).mType == MySearchResult.SearchType.HASH_TAG ? "#" :
                    (mResultList.get(pos).mType == MySearchResult.SearchType.LOCATION ? "V" :
                    (mResultList.get(pos).mType == MySearchResult.SearchType.PERSION_ID ? "P" : ""));
            titleTextView.setText(type + " " + mResultList.get(pos).mResultTitle);

            TextView subscriptTextView = (TextView)convertView.findViewById(R.id.search_subscript);
            subscriptTextView.setText(mResultList.get(pos).mSubscribe);

            convertView.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    Context context = mContext;
                    Intent intent = new Intent(context, SearchContentActivity.class);
                    context.startActivity(intent);
                }
            });
        }
        return convertView;
    }
}
```

Search 화면 구성

* MainActivity onCreateVeiwd에서 search_layout.xml과 MySearchResultAdapter를 생성하여 구성

MainActivity.java

```
@Override
public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
......
    else if(sectionNumber == 2){
        rootView = inflater.inflate(R.layout.search_layout, container, false);
        ListView searchResult =
    (ListView)rootView.findViewById(R.id.search_result_list);
        ResultAdapter adapter = new ResultAdapter(rootView.getContext());
        searchResult.setAdapter(adapter);

    }

......
```

User Profile +Grid

LinearLayout을 이용하여 사용자 정보 구성

GridView를 사용하여 Grid 구성

Add Profile

LinearLayout 사용

사용자 정보

* linear layout 으로 구성

my_info_layout.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent">
    <include layout="@layout/id_layout"/>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:orientation="vertical"
        android:layout_margin="5dp">
        <LinearLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:orientation="horizontal">
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="match_parent"
                android:text="업로드 수 | " />
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="match_parent"
                android:id="@+id/uploadCounter"
                android:text="17" />
        </LinearLayout>
        <LinearLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:orientation="horizontal">
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="match_parent"
                android:text="친구수 | " />
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="match_parent"
                android:id="@+id/FriendsCounter"
                android:text="12300" />
        </LinearLayout>
    </LinearLayout>
</LinearLayout>
```

Use Grid

새로 layout을 구성
LinearLayout 을 이용하여
item_detail.xml 을 구성

사용자 이미지 Grid

* 재사용 가능성이 있는 Gridview를 따로 xml 로 구성

* 사용하는 곳에서 include 하여 사용

item_grid.xml

```
<?xml version="1.0" encoding="utf-8"?>
<GridView xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/gridview"
    tools:context=".MainActivity"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:fastScrollEnabled="true"
    android:scrollingCache="true"
    android:columnWidth="100dp"
    android:numColumns="auto_fit"
    android:verticalSpacing="10dp"
    android:horizontalSpacing="10dp"
    android:stretchMode="columnWidth"
    android:gravity="center">

</GridView>
```

my_info_layout.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent">
    <include layout="@layout/id_layout"/>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:orientation="vertical"
        android:layout_margin="5dp"…>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        style="@style/GridWrapper">
        <include layout="@layout/item_grid" />
    </LinearLayout>
</LinearLayout>
```

ImageAdapter

```
public class ImageAdapter extends BaseAdapter {
    private Context mContext;
    private LruCache<String, Bitmap> mMemoryCache;
    private Integer[] mImageIds = {
            R.drawable.img_feed_center_1, R.drawable.img_feed_center_2,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.img_feed_center_1, R.drawable.img_feed_center_2,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.img_feed_center_1, R.drawable.img_feed_center_2,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.img_feed_center_1, R.drawable.img_feed_center_2,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.img_feed_center_1, R.drawable.img_feed_center_2,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.img_feed_center_1, R.drawable.img_feed_center_2,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.dome, R.drawable.songdo,
            R.drawable.img_feed_center_1, R.drawable.img_feed_center_2,
            R.drawable.dome, R.drawable.songdo,
            R.drawable.img_feed_center_1, R.drawable.img_feed_center_2,
            R.drawable.dome, R.drawable.songdo,
            R.drawable.img_feed_center_1, R.drawable.img_feed_center_2,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.dome, R.drawable.songdo,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.dome, R.drawable.songdo,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.dome, R.drawable.songdo,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.dome, R.drawable.songdo,
            R.drawable.songdo, R.drawable.junju,
            R.drawable.dome, R.drawable.songdo
};
```

ImageAdapter

```
public ImageAdapter(Context context) {
    mContext = context;

    // Get memory class of this device, exceeding this amount will throw an
    // OutOfMemory exception.
    final int maxMemory = (int) (Runtime.getRuntime().maxMemory());

    // Use 1/8th of the available memory for this memory cache.
    final int cacheSize = maxMemory / 8;
    Log.d("grid perf", "cacheSize : " + cacheSize);

    mMemoryCache = new LruCache<String, Bitmap>(cacheSize) {

        protected int sizeOf(String key, Bitmap bitmap) {
            // The cache size will be measured in bytes rather than number
            // of items.
            Log.d("grid perf", "sizeOf : " + bitmap.getByteCount());
            return bitmap.getByteCount();
        }

    };
}
```

ImageAdapter

```
@Override
public int getCount() {
    return mImageIds.length;
}

@Override
public Object getItem(int position) {
    return null;
}

@Override
public long getItemId(int position) {
    return 0;
}
```

ImageAdapter

```
@Override
public View getView(int position, View convertView, ViewGroup parent) {
    ImageView imageView;
    if(convertView == null){
        imageView = new ImageView(mContext);
        imageView.setLayoutParams(new GridView.LayoutParams(GridView.AUTO_FIT, (
                int)(100*mContext.getResources().getDisplayMetrics().density)));
        imageView.setScaleType(ImageView.ScaleType.CENTER_CROP);
    }
    else{
        imageView = (ImageView) convertView;
    }
    Log.d("view index", "grid index : " + position);

    final String imageKey = String.valueOf(mImageIds[position]);
    Log.d("grid perf", "imageKey : " + imageKey);
    Bitmap thumbnailBitmap = getBitmapFromMemCache(imageKey);
    if(thumbnailBitmap == null){
        int imageViewHeight = imageView.getLayoutParams().height;
        int imageViewWidth = imageView.getLayoutParams().width;
        thumbnailBitmap = resizeResource(mImageIds[position], imageViewWidth, imageViewHeight);
        addBitmapToMemoryCache(imageKey, thumbnailBitmap);
        Log.d("grid perf", "imageKey : " + imageKey + " use new image");
    }else{
        Log.d("grid perf", "imageKey : " + imageKey + " use cached image");
    }
    imageView.setImageBitmap(thumbnailBitmap);
    return imageView;
}
```

ImageAdapter

```
    private Bitmap resizeResource(int imageResourceId, int width, int height){
        int requestWidth = width;
        int requestHeight = height;
        return Util.decodeSampledBitmapFromResource(mContext.getResources(), imageResourceId,
requestWidth, requestHeight);
    }

    public void addBitmapToMemoryCache(String key, Bitmap bitmap) {
        if (getBitmapFromMemCache(key) == null) {
            mMemoryCache.put(key, bitmap);
        }
    }

    public Bitmap getBitmapFromMemCache(String key) {
        return mMemoryCache.get(key);
    }
}
```

사용자 정보 화면 구성

* MainActivity onCreateVeiwd에서 my_info_layout.xml과 gridview에 ImageAdapter를 생성하여 구성

MainActivity.java

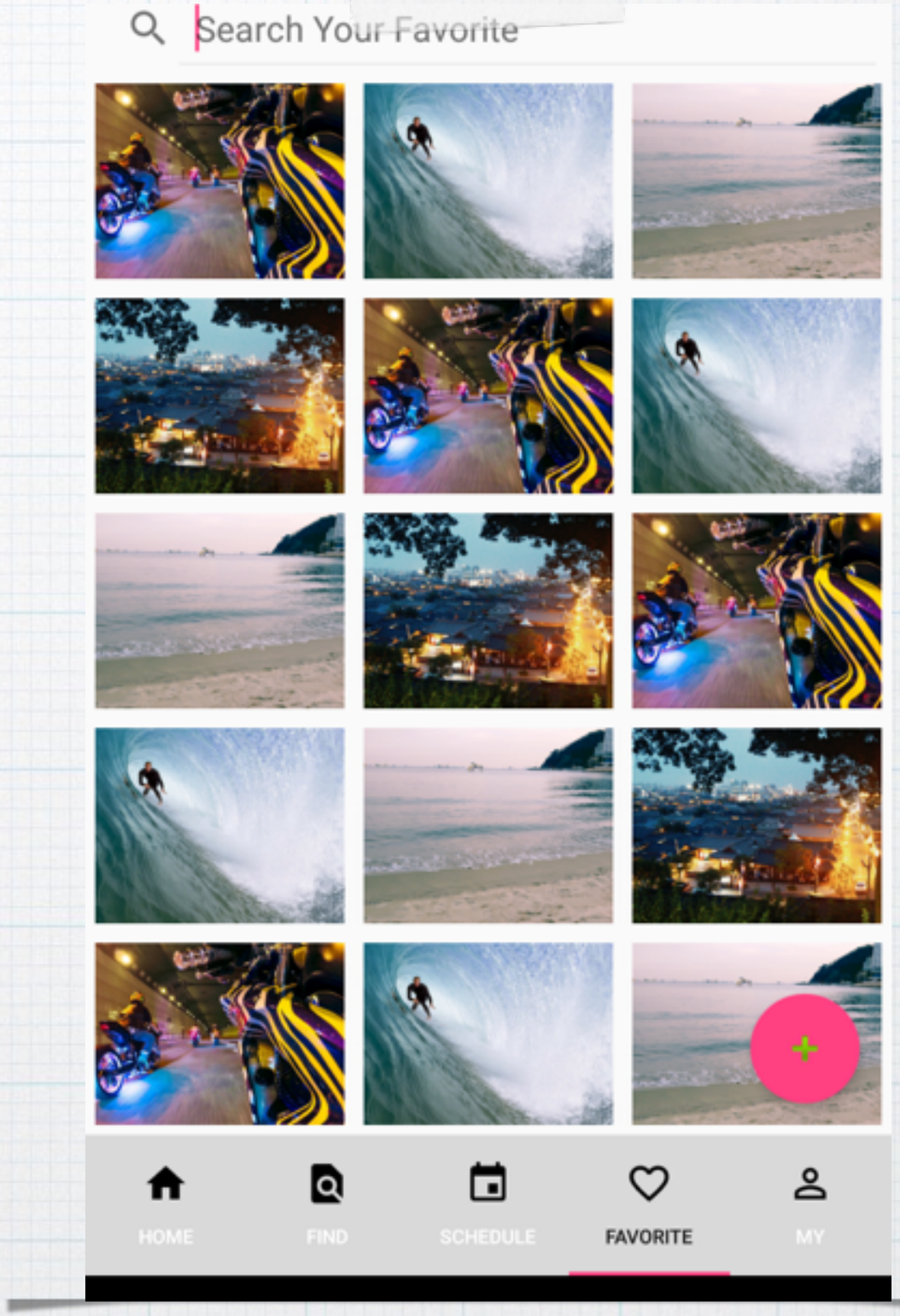
```
@Override
public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
.....
  else if(sectionNumber == 5){
      rootView = inflater.inflate(R.layout.my_info_layout, container, false);
      Context context = rootView.getContext();
      GridView infoGrid = (GridView)rootView.findViewById(R.id.gridview);
      ImageAdapter imageAdapter = new ImageAdapter(context);
      infoGrid.setAdapter(imageAdapter);
  }
.....
```

Grid List

새로 **layout**을 구성

LinearLayout 을 이용하여

item_detail.xml 을 구성

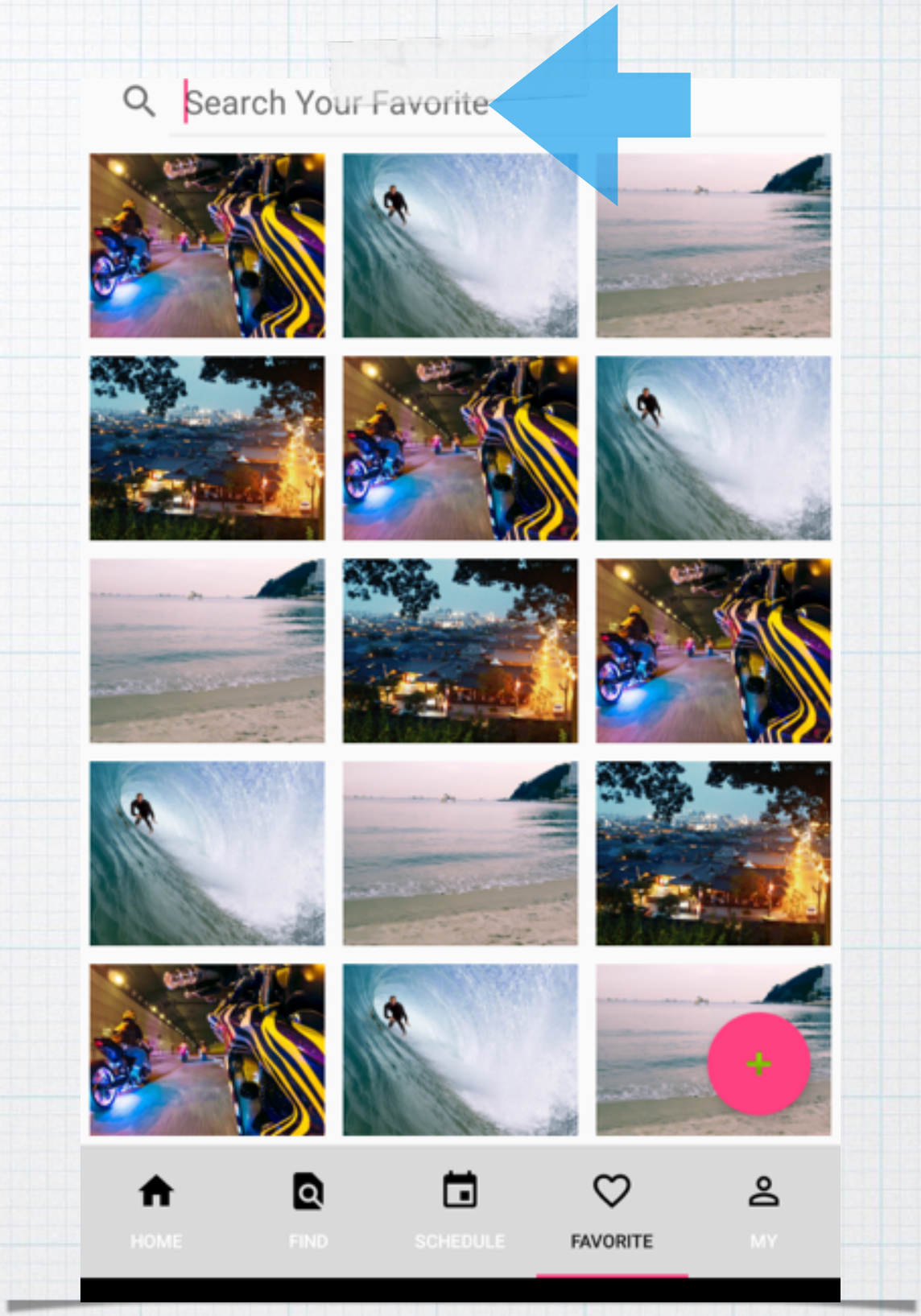


Add Search UI

새로 **layout**을 구성

LinearLayout 을 이용하여

item_detail.xml 을 구성



Add Grid UI

새로 layout을 구성
LinearLayout 을 이용하여
item_detail.xml 을 구성

SearchView

* search 에 필요한 UI
* queryHint 로 기본 문자열 설정

Favorite grid

* 만들어 놓은 **Gridview**를 **include** 하여 사용

favorite_layout.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <android.support.v7.widget.SearchView
        android:id="@+id/favorite_search"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:queryHint="Search Your Favorite"
        app:iconifiedByDefault="false">
    </android.support.v7.widget.SearchView>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        style="@style/GridWrapper">
        <include layout="@layout/item_grid" />
    </LinearLayout>
</LinearLayout>
```

사용자 정보 화면 구성

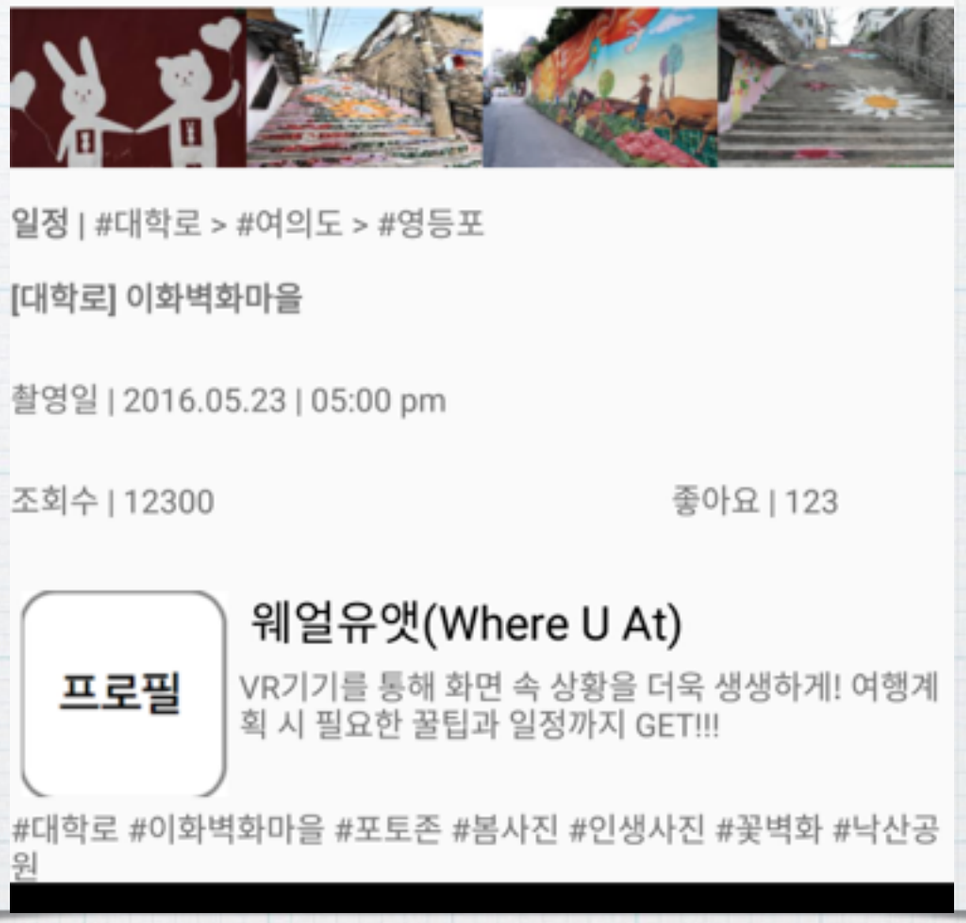
* MainActivity onCreateVeiwd에서 favorite_layout.xml과 gridview에 ImageAdapter를 생성하여 구성

MainActivity.java

```
@Override
public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
.....
  else if(sectionNumber == 4){
      rootView = inflater.inflate(R.layout.favorite_layout, container, false);
      Context context = rootView.getContext();
      GridView infoGrid = (GridView)rootView.findViewById(R.id.gridview);
      ImageAdapter imageAdapter = new ImageAdapter(context);
      infoGrid.setAdapter(imageAdapter);
  }

.....
```

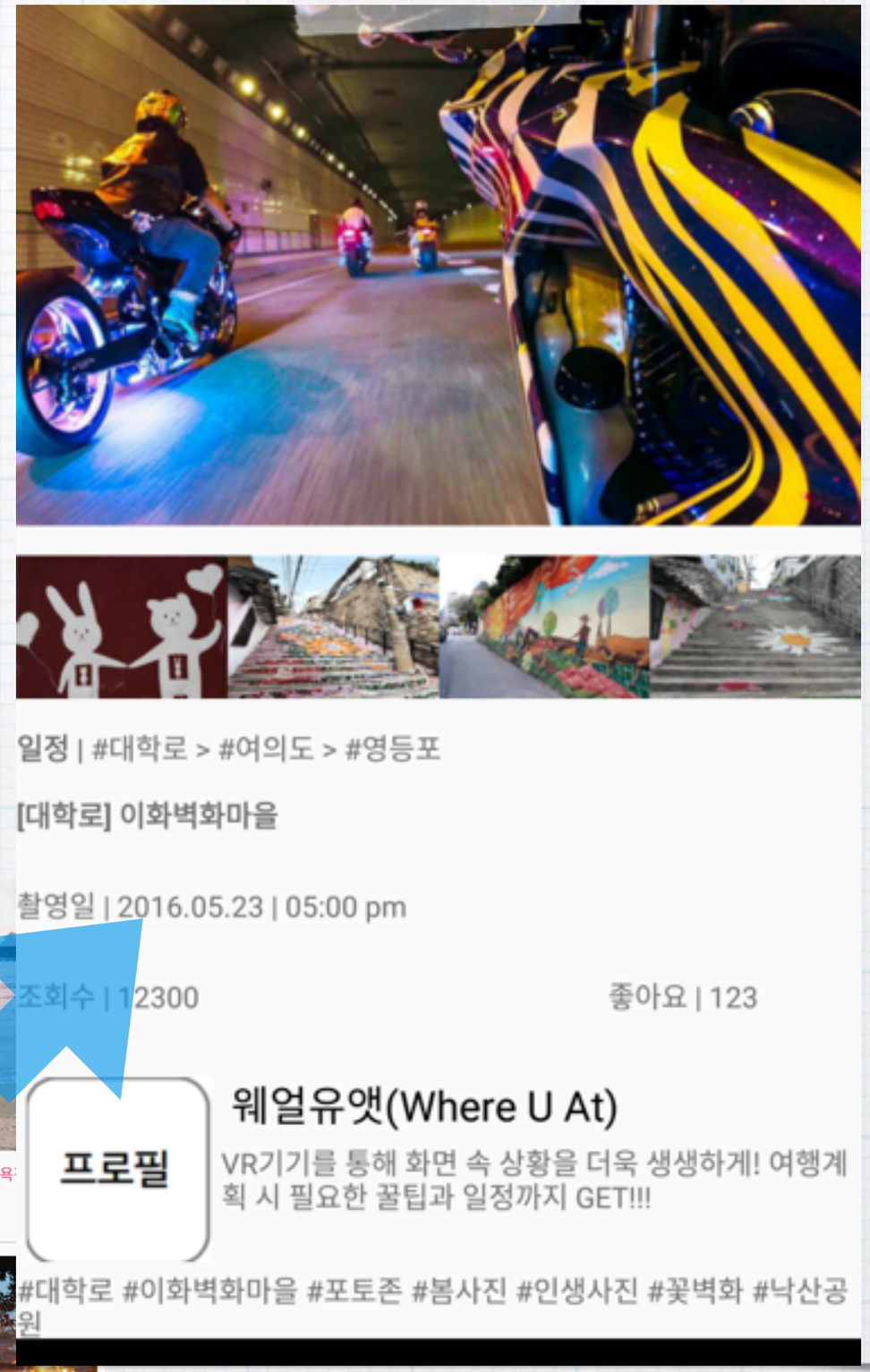
Launch Activity

클릭 이벤트로 상세 보기 화면 띄우기



from Card

클릭 이벤트로 상세 보기
화면 띄우기



from Grid

클릭 이벤트로 상세 보기
화면 띄우기

OnClickListener

* grid image 에 click event 시 상세 화면을 볼 수 있는 Activity 호출 구현

ContentActivity.java

```java
public class ContentActivity extends Activity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.item_detail);
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();
    }
}
```

ImageAdapter.java

```
@Override
 public View getView(int position, View convertView, ViewGroup parent) {
     ImageView imageView;
     if(convertView == null){
         imageView = new ImageView(mContext);
         imageView.setLayoutParams(new GridView.LayoutParams(GridView.AUTO_FIT, (
                 int)(100*mContext.getResources().getDisplayMetrics().density)));
         imageView.setScaleType(ImageView.ScaleType.CENTER_CROP);
     }
     else{
         imageView = (ImageView) convertView;
     }
     Log.d("view index", "grid index : " + position);

     final String imageKey = String.valueOf(mImageIds[position]);
     Log.d("grid perf", "imageKey : " + imageKey);
     Bitmap thumbnailBitmap = getBitmapFromMemCache(imageKey);
     if(thumbnailBitmap == null){
         int imageViewHeight = imageView.getLayoutParams().height;
         int imageViewWidth = imageView.getLayoutParams().width;
         thumbnailBitmap = resizeResource(mImageIds[position], imageViewWidth, imageViewHeight);
         addBitmapToMemoryCache(imageKey, thumbnailBitmap);
         Log.d("grid perf", "imageKey : " + imageKey + " use new image");
     }else{
         Log.d("grid perf", "imageKey : " + imageKey + " use cached image");
     }
     imageView.setImageBitmap(thumbnailBitmap);
     imageView.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
             Context context = v.getContext();
             Intent intent = new Intent(context, ContentActivity.class);
             context.startActivity(intent);
         }
     });
     return imageView;
 }
```

content activity에
data 넘기기?

search 결과 입력 후,
결과는 어떻게 변경
할까?