

Just a Cat — An Information Application



1. Introduction

Just a Cat is an informative Android application. It integrates latest news from *The New York Times*, *The Guardian* and some mainstream medias in China, weather information, projects on github trending, a turing robot which can chat with users (support voice input) and translation (support voice input).

2. APIs

[The Guardian](#)

The Guardian is a British daily newspaper which is focus on reporting international news. It is good at making comments and analytical thematic articles. The paper's readership is generally on the mainstream left of British political opinion.

[The New York Times](#) (need to use proxy)

The New York Times is an American newspaper based in New York City with worldwide influence and readership. It has long been regarded within the industry as a national "newspaper of record".

[Integration of some mainstream medias in China \(Tencent, CCTV, World Wide\)](#) (unofficial)

All of them are large Chinese news websites.

[Turing Robot](#)

An open intelligence chat robot platform which provide APIs for users to chat with turing robot.

[Weather](#) (unofficial)

Provide the weather information of every province, including weather forecast, air quality and life advice.

[Bing pictures \(background picture of weather page\)](#) (unofficial)

Update a beautiful picture everyday.

[Youdao Translator](#)

A Translator.

Speech recognition method developed by iFly (SDK is under `Just/app/libs`)

Support voice input.

[Github Trending](#) (unofficial, [Code](#))

Exhibits some potential open source projects on Github.

3. Implement

- Adopt material design style, use the slide menu to switch different information pages.
- Use retrofit to make Http&Https requests, use GSON and SimpleXml to parse data.

Data parsing

- Deal with XML
 - `GithubParser` class Use SimpleXml to parse XML data from API of github trending

```
public class GitHubParser
{
    // actions...

    @Root(name = "project",strict = false)
    public static class Project
    {
        @Element(name = "owner",required = false)
        private String owner;
```

```

    @Element(name = "repository_name",required = false)
    private String repository_name;

    @Element(name = "name",required = false)
    private String name;

    @Element(name = "descriptions",required = false)
    private String descriptions;

    @Element(name = "language",required = false)
    private String language;

    @Element(name = "stars",required = false)
    private String stars;

    @Element(name = "url",required = false)
    private String url;

    @ElementList(entry = "contributor",inline = true,required = false)

    // actions...
}
}

```

- Deal with JSON example

- `GuardianJsonParser` Class Use GSON to parse JSON data form API of The Guardian

```

public class GuardianJsonParser
{
    // Field constants
    private static final String JSON_RESPONSE = "response";
    // ...
    // define other field constants
    // ...

    // GuardianJsonParser Constructor
    public GuardianJsonParser()
    {
    }

    public static ArrayList<Articles> getArticlesFromJSON(String
articlesJSONString)

```

```

{
    try
    {
        // Create the articlesJSON object with the articlesJSONString
parameter
        JSONObject jsonObject = new JSONObject(articlesJSONString);
        JSONObject responseObject =
            jsonObject.getJSONObject(JSON_RESPONSE);
        JSONArray resultsArray = responseObject.getJSONArray(JSON_RESULTS);
        int articlesQty = resultsArray.length();
        mArticlesArrayList = new ArrayList<>();

        // Loop through the articlesArray to parse each Json object needed
        for (int i = 0; i < articlesQty; i++)
        {
            JSONObject articleRecord = resultsArray.getJSONObject(i);
            // Parse the individual data elements needed
            String articleId = articleRecord.getString(ARTICLE_ID);
            String articleType = articleRecord.getString(ARTICLE_TYPE);
            String articleSectionId =
                articleRecord.getString(ARTICLE_SECTION_ID);
            String articleSectionName =
                articleRecord.getString(ARTICLE_SECTION_NAME);
            String articleWebPublicationDate =
                articleRecord.getString(ARTICLE_WEB_PLUBLICATION_DATE);
            String articleWebTitle =
                articleRecord.getString(ARTICLE_WEB_TITLE);
            String articleWebUrl =
                articleRecord.getString(ARTICLE_WEB_URL);
            String articleApiUrl =
                articleRecord.getString(ARTICLE_API_URL);
            Boolean articleIsHosted =
                articleRecord.getBoolean(ARTICLE_IS_HOSTED);
            // Try to get the author from the tags
            JSONArray articleTagsArray =
                articleRecord.getJSONArray(JSON_TAGS);
            String articleAuthor = VALUE_NO_AUTHOR;
            try
            {
                JSONObject articleContributor =
                    articleTagsArray.getJSONObject(0);
                articleAuthor =
                    articleContributor.getString(ARTICLE_WEB_TITLE);
            } catch (JSONException ignored)
            {
            }
            // Try to get the image
            String articleFile = VALUE_NO_IMAGE;
            try

```

```

        {
            JSONObject articleBlocks =
                articleRecord.getJSONObject(JSON_BLOCKS);
            JSONObject articleRequestedBlocks =

articleBlocks.getJSONObject(JSON_REQUESTED_BODY_BLOCKS);
            JSONArray articleBodyLatestArray =
                articleRequestedBlocks.getJSONArray(JSON_BODY_LATEST);
            JSONObject articleBodyLatest =
                articleBodyLatestArray.getJSONObject(0);
            JSONArray articleElements =
                articleBodyLatest.getJSONArray(JSON_ELEMENTS);
            JSONObject articleAssets =
                articleElements.getJSONObject(1);
            JSONArray articleImageArray =
                articleAssets.getJSONArray(JSON_ASSETS);
            JSONObject articleImage =
                articleImageArray.getJSONObject(3);
            articleFile = articleImage.getString(JSON_FILE);
        }
        catch (JSONException ignored)
        {
        }

        // Create an Article Object
        // actions...

        // Add the Article Object to the ArrayList
        mArticlesArrayList.add(article);
    }
}
catch (JSONException e)
{
    Log.e("Exception: ", "" + e);
    e.printStackTrace();
}
return mArticlesArrayList;
}
}

```

- `Utility Class` Use GSON to parse JSON data from weather API

```

public class Utility
{
    public static boolean handleProvinceResponse(String response)
    {
    }
}

```

```

        if (!TextUtils.isEmpty(response))
        {
            try
            {
                JSONArray allProvinces = new JSONArray(response);
                for (int i = 0; i < allProvinces.length(); i++)
                {
                    JSONObject provinceObject = allProvinces.getJSONObject(i);
                    Province province = new Province();
                    province.setProvinceName(provinceObject.getString("name"));
                    province.setProvinceCode(provinceObject.getInt("id"));
                    province.save();
                }
                return true;
            }
            catch (JSONException e)
            {
                e.printStackTrace();
            }
        }
        return false;
    }

    public static boolean handleCityResponse(String response, int provinceId)
    {
        if (!TextUtils.isEmpty(response))
        {
            try
            {
                JSONArray allCities = new JSONArray(response);
                for (int i = 0; i < allCities.length(); i++)
                {
                    JSONObject cityObject = allCities.getJSONObject(i);
                    City city = new City();
                    city.setCityName(cityObject.getString("name"));
                    city.setCityCode(cityObject.getInt("id"));
                    city.setProvinceId(provinceId);
                    city.save();
                }
                return true;
            }
            catch (JSONException e)
            {
                e.printStackTrace();
            }
        }
        return false;
    }
}

```

```

public static boolean handleCountyResponse(String response, int cityId)
{
    if (!TextUtils.isEmpty(response))
    {
        try
        {
            JSONArray allCounties = new JSONArray(response);
            for (int i = 0; i < allCounties.length(); i++)
            {
                JSONObject cityObject = allCounties.getJSONObject(i);
                County county = new County();
                county.setCountyName(cityObject.getString("name"));
                county.setWeatherId(cityObject.getString("weather_id"));
                county.setCityId(cityId);
                county.save();
            }
            return true;
        }
        catch (JSONException e)
        {
            e.printStackTrace();
        }
    }
    return false;
}

public static Weather handleWeatherResponse(String response)
{
    try
    {
        JSONObject jsonObject = new JSONObject(response);
        JSONArray jsonArray = jsonObject.getJSONArray("HeWeather");
        String weatherContent = jsonArray.getJSONObject(0).toString();
        return new Gson().fromJson(weatherContent, Weather.class);
    }
    catch (Exception e)
    {
        e.printStackTrace();
    }
    return null;
}
}

```

4.Other functions

Change Themes

In fact, this function just change the color of toolbar from blue to grey.

Favorites

You can touch the "favorites" button on news page to add it to your favorites list, you can also clean your favorites list.

5. Development and configuration

Environment

Language: Java

IDE: IntelliJ IDEA

How to run

Download the project and run in IDEA

APIs

You must provide your own keys of following five APIs in order to connect with and fetch data from them.

Turing Robot

Create a API on <http://www.tuling123.com> and put your key and user id here in

Activity/TulingActivity.java

```
// 请求数据
//@param text 输入框的发送数据
private void request(String text)
{
    // 把输入的文本数据存储在请求实体类中
    Ask ask = new Ask();
    Ask.UserInfoBean info = new Ask.UserInfoBean();
    info.setApiKey("put in your tuling_api_key");
    info.setUserId("put in your tuling_user_id");
}
```

Youdao Translator

Create a API on <https://ai.youdao.com> and and put your key and app id here in

Activity/TranslateActivity.java

// 点击按钮方法

```
public void translateString(View view)
{
```

```
    String appId = "put in your youdao_appid";
    String appKey = "put in your youdao_api_key";
```

iFly

Create a API on <https://www.xfyun.cn> and download SDK. Put your app id here in

Activity/TranslateActivity.java

```
private void initSpeech()
{
    SpeechUtility.createUtility(context: this, s: SpeechConstant.APPID+"=put in your ifly_app_id");
}
```

The New York Times


Create a API on <https://developer.nytimes.com> and put your key here in

util/NewsQueryUtils.java

```
// Main method that has sub-routines to fetch top stories
public static List<News> fetchNews(String newsCategory)
{
    // Create valid url object from the requestURL
    String requestUrl = "https://api.nytimes.com/svc/topstories/v2/%1$s.json?api-key=%2$s";
    String fullUrl = String.format(requestUrl, newsCategory, "put in your newyorktimes_api_key");
    URL url = createUrl(fullUrl);
}
```

The Guardian

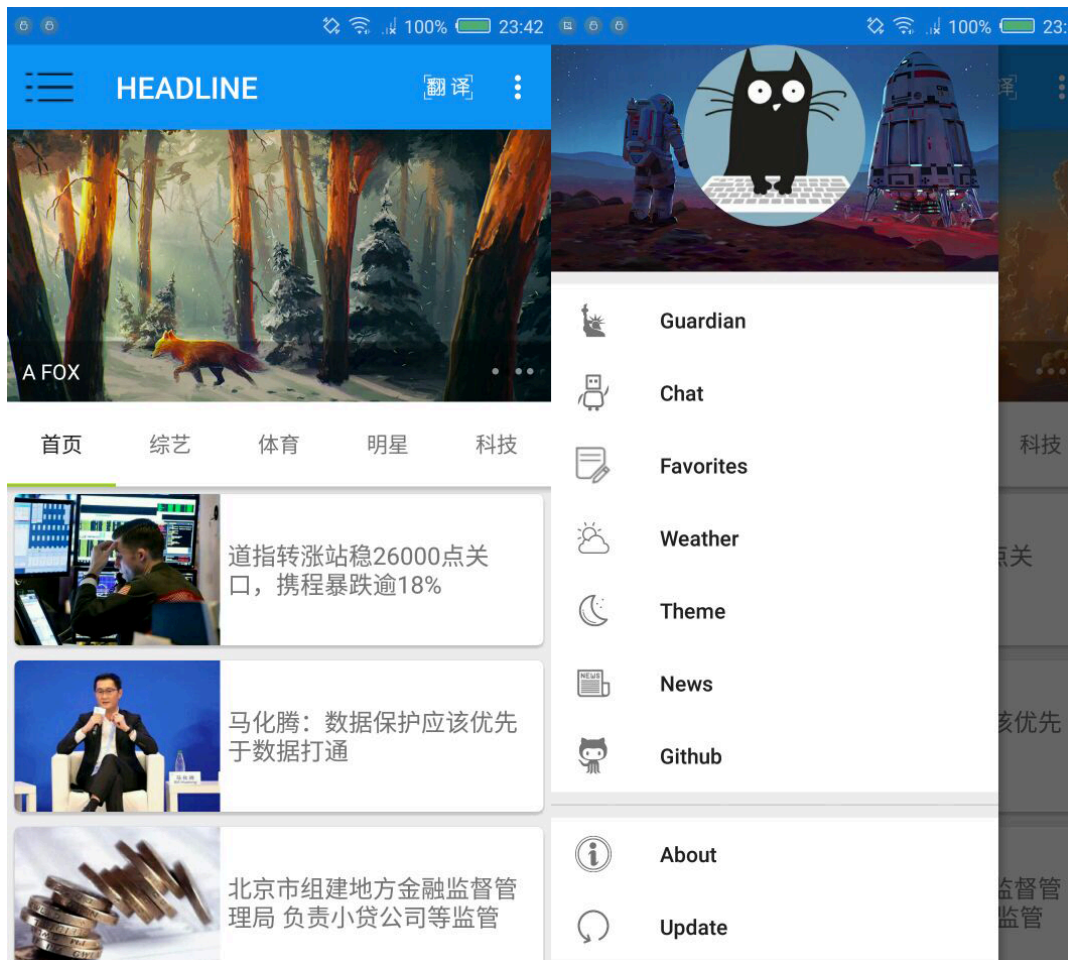
Create a API on <https://open-platform.theguardian.com/> and put your key here in Data/API.java

```
// An API class to connect to the Guardian and get the results
public final class API
{
     //private static final String API_KEY = BuildConfig.GUARDIAN_API_KEY;
    private static final String API_KEY = "put in your guardian_api_key";
}
```

6. ScreenShots

Home page and slide menu

Click the menu button on the top left corner to expanding the slide menu.



Favourites

Click the favorites button on the bottom right corner to add this news into your favorites list. Click the delete button on the top right corner to clean your favorites list.

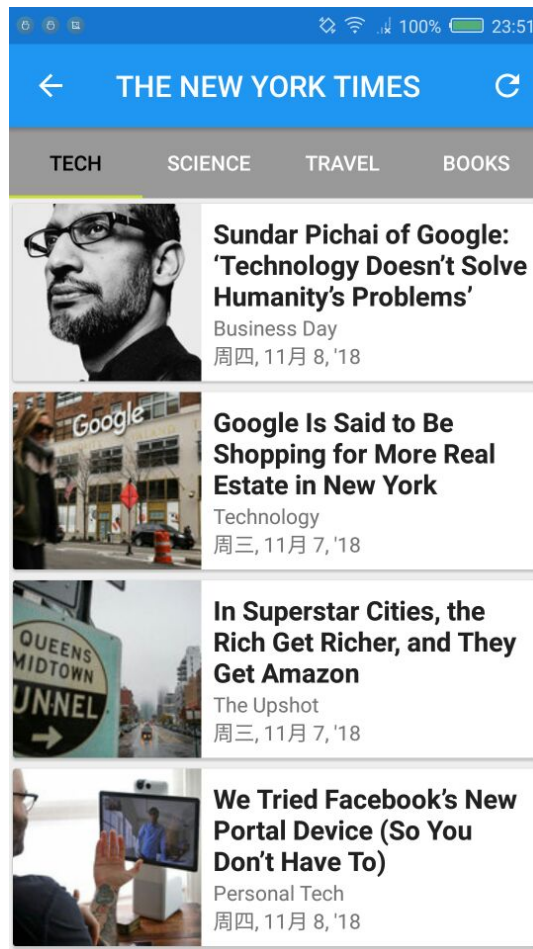


Weather

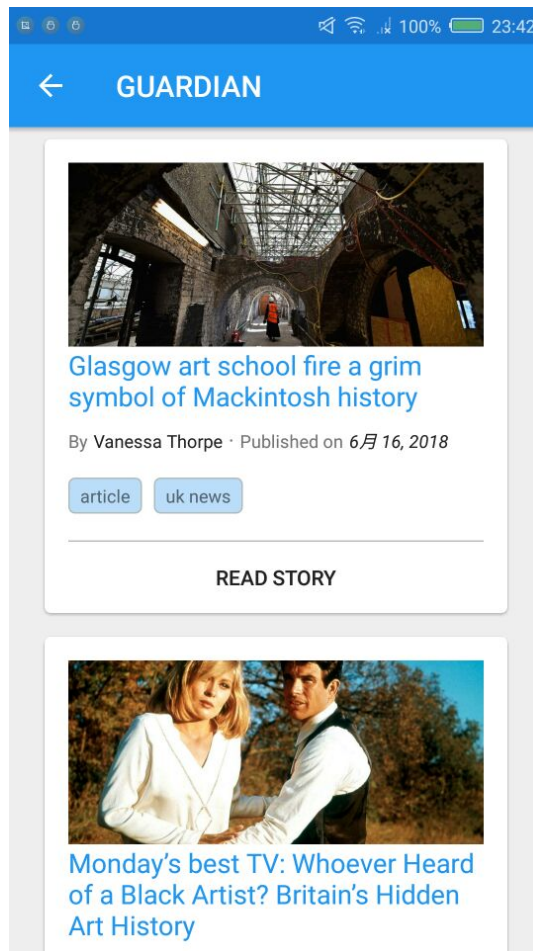
Click the menu button on the top left corner to expanding the provinces and cities menu.



The New York Times



The Guardian

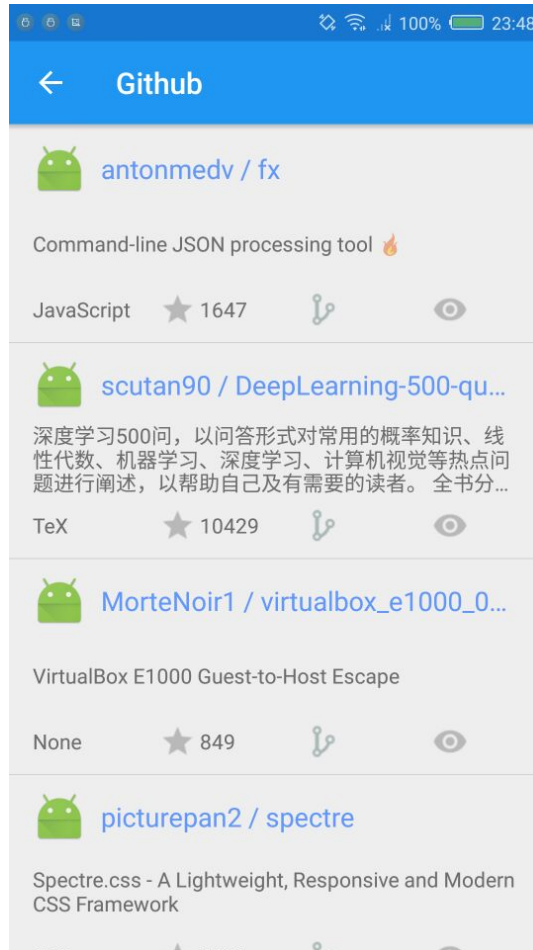


图灵机器人

Click the "microphone" button to change your voice to words.

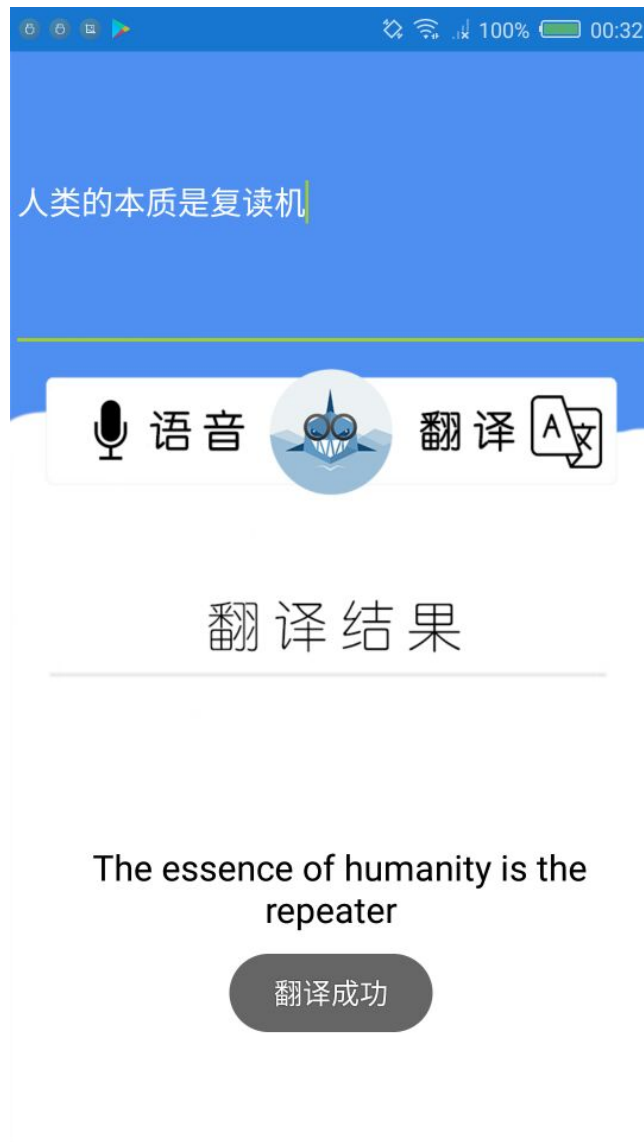


Github

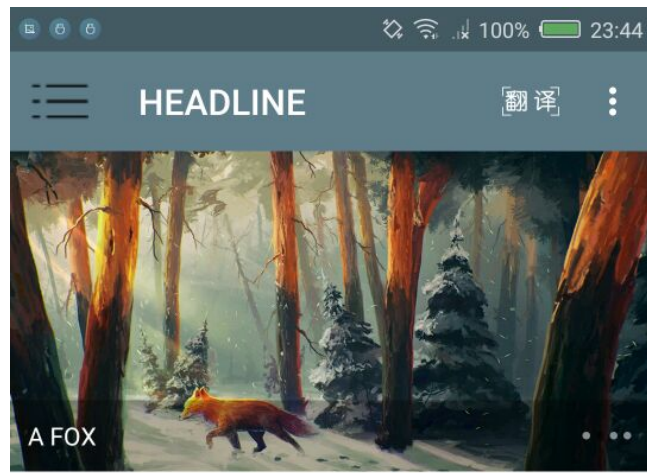


Translator

Click the "microphone" button to change your voice to words.



Change theme



| | |
|---|--------------------------|
|  | 道指转涨站稳26000点关口，携程暴跌逾18% |
|  | 马化腾：数据保护应该优先于数据打通 |
|  | 北京市组建地方金融监督管理局 负责小贷公司等监管 |

About



Just a Cat

只是一只懂得很多的猫

News, Article, Weather, Translate, Technology
and Chatting