



FINAL REPORT

Three News

Final Project of Software Engineering

叁闻

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Conclusion and future work

The background of the slide is composed of several elements. On the left, there is a vertical bar with a black top section and an orange bottom section. The orange section is further divided into two horizontal bands of different shades of orange. To the right of this bar is a wide, horizontal black and white photograph of a modern building's facade, showing sharp geometric lines and a grid-like structure. The number '1' is centered within the orange section of the left bar.

1


Introduction

Background and introduction



1.1 Background

Nowadays, plenty of news and information content platforms are **full of junk news and uncomfortable advertisement**, users are losing the comfort of the experience. Considering that, We are committed to solving the problem of poor user experience. Within our app, users can **enjoy the simplest news, no advertisement and get the news which is their preferences.**



1.2 Brief Introduction

Our app will select different news for users according to the browsing history and users's signals of “like” , “dislike” . When users press the “THREE NEWS” button, it will recommand three news, users can see the details by choosing the news, or users can get specific news using search.



The background of the slide is composed of several elements. On the left, there are two overlapping squares: a black one on top and an orange one on the bottom. The number '2' is centered in the orange square. To the right of these squares is a wide, horizontal black and white photograph of a modern building's facade, showing sharp geometric lines and a grid of windows. The bottom half of the slide is a solid white area where the title and subtitle are located.

2

Timeline

Time arrangement

2.1 Timeline

Week	Features
week 10	News Details
week 11	News "like", "unlike", "bookmark" features.
week 12	Spider for news.
week 13	News classification, news theme collecting.
week 14	Recommendation Algorithm.
week 15	Remain features.

2.2 Version Histories

🔑 1.0
b30a1e5

Version1.0

 iAmCorey released this on 20 Apr · [55 commits](#) to master since this release

2019/4/20

- Implements Register/Login feature
- Implements Share feature
- Implements Camera feature

▶ Assets 2

Latest release

🔑 version-2.0

d677048

Verified

version-2.0

 Sustechzjh released this 11 days ago · [32 commits](#) to master since this release

Release version 2.0 implements:

1. spider for news
2. like and dislike function
3. bookmark function



3

Features

Functions of our app

3.1 Log in and Register

📶 工程师开发 22:01 点击可关闭 🔊 100% 🔋



参闻



LOGIN

CANCEL

NEXT

📶 工程师开发 22:01 点击可关闭 🔊 100% 🔋



参闻

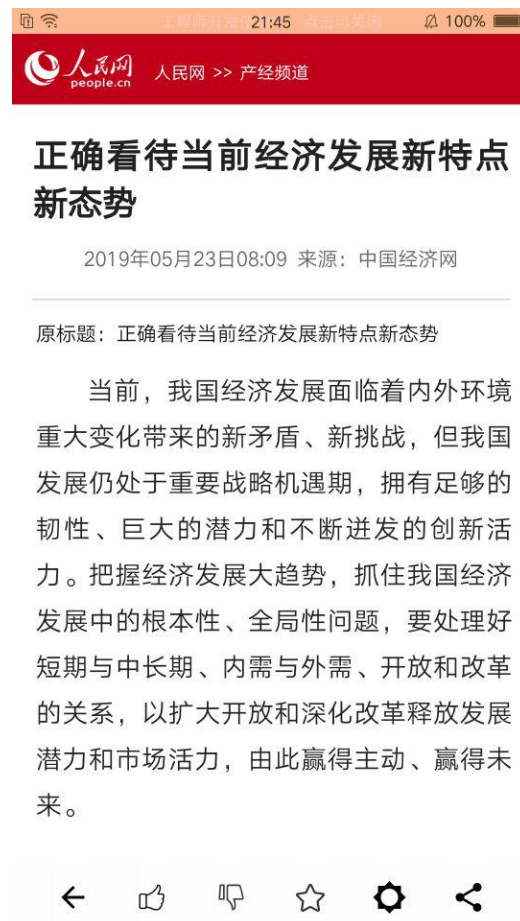


REGISTER

CANCEL

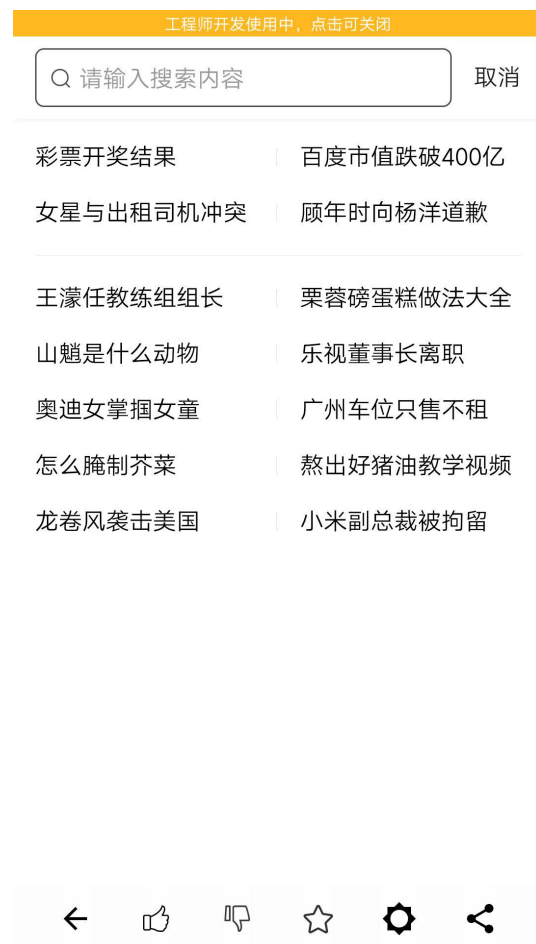
NEXT

3.2 News Details



When you select the news you can see the detail of the news.

3.3 Search for news



If you want to search some specific news, you can press the research button to get what you want.

3.4 Like and dislike



经济形势理性看：抓住用好新形势下的新机遇

林兆木

2019年05月23日07:32 来源：人民网 - 人民日报

■全球新一轮科技革命和产业变革蓬勃兴起，与我国加快转变经济发展方式形成历史性交汇，我国完全有条件构建起推动高质量发展和面向未来的现代化经济结构。

■美国严格限制向我国出口技术，虽然会给我们带来困难，但我国已具备进一步提升创新能力的基础和条件，可以发挥制度优势和市场优势，在关键核心技术创新上取得突破。



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If you like or dislike the news, you can press the “like” or “dislike” button, then it will affect the news we represent.

3.5 & 3.6 Collect and night mode



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If you want to collect some news, the “star” button will help you do this.

By the way, we devise the “night mode” for users to read without light.

3.7 Share



Of course, you can share
the news to your friends
or in moment if you like.

3.8 Recommand



Here we implement our Tensorflow Lite Framework for recommending news

The main step of recommending:

- 1) **Two of the three** news are recommended by the **tags** which user likes
- 2) One of the three news is recommended by **NLP and Supervised Learning Model** implemented in Tensorflow Lite

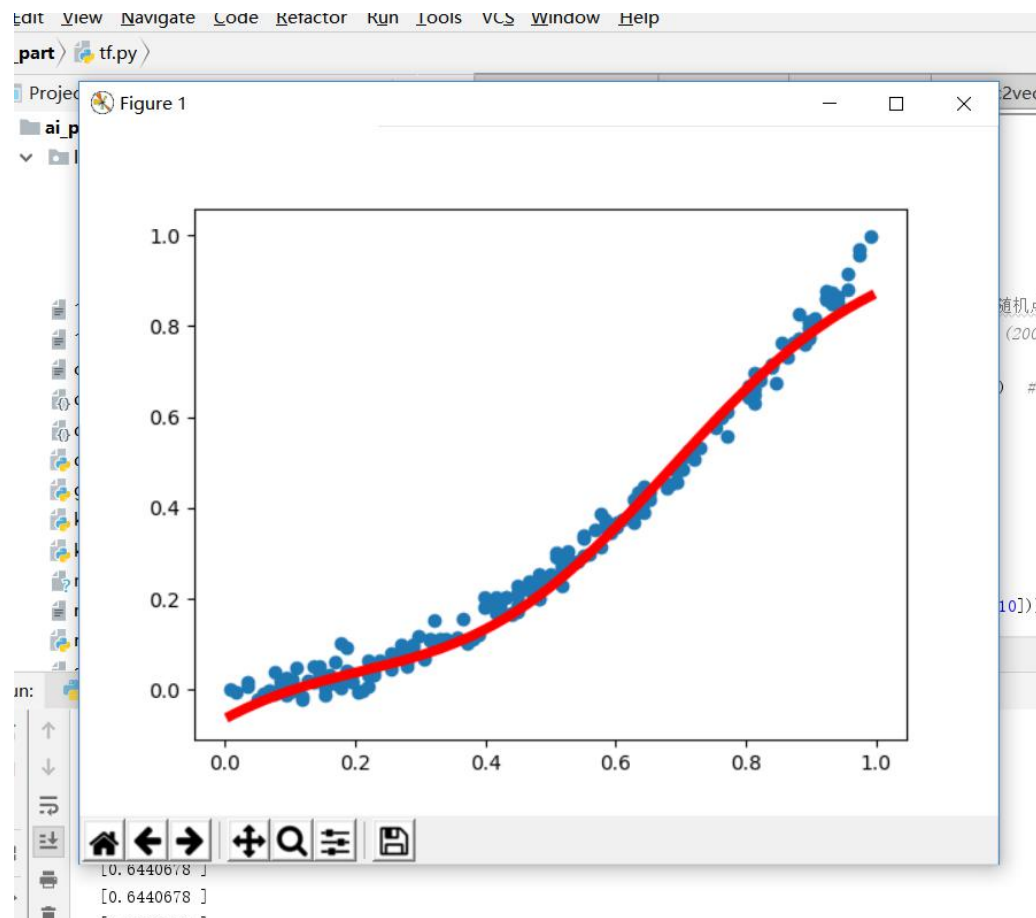
3.8 Recommand

news_id	label	news_url	news_title	introduction	feature
1	财经	http://finance.people.co...	李克强主持...	新华社北京5月22日由国务院总理李克强5...	-0.00166699
2	财经	http://finance.people.co...	中国三大航...	新华社北京5月22日由（记者齐中熙、田建...	0.0424958
3	财经	http://finance.people.co...	新业态，向...	新业态，新技术，把一个新产业从无到有...	-0.487658
4	财经	http://finance.people.co...	加征关税是...	5月22日，北京大学国家发展研究院举办“中...	0.156239
5	财经	http://finance.people.co...	外交部：希...	本报北京5月22日由??（记者王骁波）针对...	0.0481549
6	财经	http://finance.people.co...	网络提速降...	人民网北京5月23日电（朱江）与5年前相...	0.43807
7	财经	http://finance.people.co...	两部门明确...	新华社北京5月22日由（记者由铨、刘红霞...	0.0286329
8	财经	http://finance.people.co...	起底汽车全...	近日，汽车消费领域投诉问题此起彼伏。...	0.287079
9	财经	http://finance.people.co...	最高检：民...	利用虚假诉讼套取国有资产、转移个人财...	0.217036
10	财经	http://finance.people.co...	交通新业态...	本报由??（记者刘志强）近年来，网络预约...	-0.360229
11	财经	http://finance.people.co...	制造企业借...	制造企业借助“反向定制”洞察真实消费需求...	-0.46934
12	财经	http://finance.people.co...	下周成品油...	本轮计价周期内，国际原油价格整体呈现...	-0.0680828
13	财经	http://finance.people.co...	进口药加税...	随着6月1日0时我国对部分商品提高加征...	-0.281244
14	时政	http://politics.people.co...	习近平江西...	初夏时节，赣鄱大地一派欣欣向荣。中共...	0.368509
15	时政	http://politics.people.co...	贯彻新发展...	我国仍处于发展的重要战略机遇期，但面...	0.436064
16	时政	http://politics.people.co...	“默空模式”有...	下午4点，江苏省宿迁市宿城区默空镇迎来...	0.210854
17	时政	http://politics.people.co...	锻造人才方...	“全面提高办学育人水平，为强军事业提供...	-0.341984
18	时政	http://politics.people.co...	李克强主持...	新华社北京5月22日由??国务院总理李克强5...	-0.00105893
19	时政	http://politics.people.co...	激发内生动...	近日，中央全面依法治国委员会办公室印...	-0.333222
20	时政	http://politics.people.co...	新时代党员...	近日，中共中央印发了《中国共产党党员...	-0.135377
21	时政	http://politics.people.co...	亚洲文明对...	潮平海阔，千帆竞发。十五世纪初，郑和...	0.288771
22	时政	http://politics.people.co...	中央文明办...	本报重庆5月22日由??（记者江山）5月22日...	-0.230568
23	时政	http://politics.people.co...	加强人大监...	日前，全国人大常委会审议通过了《十二届全...	-0.3814
24	时政	http://politics.people.co...	重视青少年...	青少年的心理健康和身体健康同等重要。...	-0.43017
25	时政	http://politics.people.co...	当代表勇当...	前不久，徐蓉蓉成都一家街道办邀请，准...	0.399924
26	时政	http://politics.people.co...	常困发生室...	为扫除脱贫攻坚战中的障碍，针对很多地...	-0.0470678
27	时政	http://politics.people.co...	干岐山与巴...	本报北京5月23日由??（记者干迪）国家副...	0.156172
28	时政	http://politics.people.co...	习近平惦记...	这是一份特殊的地图：80双草鞋和一大一...	0.0426844
29	时政	http://politics.people.co...	提供更有针...	新华社北京5月23日由??部署推进职业技能...	0.246727

First, we implement the **Doc2vec** algorithm using gensim in Python

this can convert a news text into a vector with the size you want.

3.8 Recommand



Then, we implemented a non-linear regression by Tensorflow


We use the feature of former viewed news as the input,

and the model can get the next most wanted viewed news' feature by well trained learning model

Then we check it in our database to give the news id.

3.9 User information updating

工程师开发使用中，点击可关闭



CHANGE AVATAR

USERNAME

性别	男	男	▼
行业	艺术娱乐	学生	▼
出生日期	1979	1970	▼

UPDATE PROFILE

LOGOUT

You can update your user information.

which includes:

1. gender
2. occupation
3. birth year
4. User avatar

The background of the slide is composed of several elements. On the left, there are two overlapping squares: a dark orange one on top and a lighter orange one on the bottom. To the right of these squares is a black and white photograph of a modern building with a glass facade, viewed from a low angle looking up. The rest of the slide background is white.

4

Test

Tests for our app



4.1 Test techniques

For testing, we only used unit test and scenario test.

- 1) Unit testing is testing of the smallest testable unit in software. Generally speaking, the meaning of unit in unit test should be determined according to the actual situation. For example, in C language, unit refers to a function, in Java, unit refers to a class, and in graphical software, it can refer to a window or a menu.
- 2) Scenario testing is a software testing activity that uses scenarios: hypothetical stories to help the tester work through a complex problem or test system. The ideal scenario test is a credible, complex, compelling or motivating story the outcome of which is easy to evaluate

4.2 Number of tests

Run: All in threeNews x

Tests passed: 28


✓ UserRepositoryTest	2 s 284 ms
✓ findByNameAndPasswordWithCorrect	1 s 1 ms
✓ findByNameWithCorrect	634 ms
✓ findByNameAndPasswordWithInvalid	345 ms
✓ findByNameWithInvalid	304 ms
✓ ResultVOTest	1 ms
✓ testSetMessageCorrect	1 ms
✓ testSetDataWithNull	0 ms
✓ testGetMessageWithCorrect	0 ms
✓ testSetCodeWithLargeNum	0 ms
✓ testSetMessageNull	0 ms
✓ testGetDataWithCorrect	0 ms
✓ testGetCodeWith0	0 ms
✓ testGetCodeWithLargeNum	0 ms
✓ testSetDataWithCorrect	0 ms
✓ testSetCodeWith0	0 ms
✓ testGetDataWithNull	0 ms
✓ testGetMessageWithNull	0 ms
✓ UserTest	0 ms
✓ testGetNameWithJiXuan	0 ms
✓ testGetNameWithJinHao	0 ms
✓ UserServiceTest	2 s 105 ms
✓ testCheckNameWithExist	247 ms
✓ testCheckPasswordWithInvalid	27 ms
✓ addUserWithOther	535 ms
✓ testCheckPasswordWithNull	46 ms
✓ addUserWithCorrect	394 ms
✓ testCheckNameWithNone	648 ms
✓ getBynameWithExist	157 ms
✓ testCheckPasswordWithValid	23 ms

121 lines (45 sloc) | 2.7 KB

Raw Blame History

ThreeNewsApplication GUI Test

When the user first open this app, the method `onCreate()` is invoked.



NewsEntry GUI Test

`initNewsEntryList()` method is invoked when the main interface showed, the app init the list which stores news entry.

Scenario test in Test.md.



5

Static Analysis

5.1 Static analysis tools

CheckStyle Audit
Designed for use with [CheckStyle](#) and [Ant](#).

Summary	
Files	Errors
15	0

Files	
Name	Errors
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\AccountFragment.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\BrowserFragment.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News>LoginFragment.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\MainActivity.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NavigationHost.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NavigationOnClickListener.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NewsCardRecyclerViewAdapter.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NewsCardViewHolder.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NewsGridFragment.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NewsGridItemDecoration.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\RegisterFragment.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\RegistrationThreeNewsApplication.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NetworkImageRequester.java	0
G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NetworkNewsEntry.java	0
G:\Github_Repository\main-project-repository-soad\src\test\java\com\google\code\labs\mdc\java\three\News\ExampleUnitTest.java	0

File G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\AccountFragment.java	Line
Error Description	
Back to top	
File G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\BrowserFragment.java	Line
Error Description	
Back to top	
File G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News>LoginFragment.java	Line
Error Description	
Back to top	
File G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\MainActivity.java	Line
Error Description	
Back to top	
File G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NavigationHost.java	Line
Error Description	
Back to top	
File G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NavigationOnClickListener.java	Line
Error Description	
Back to top	
File G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NewsCardRecyclerViewAdapter.java	Line
Error Description	
Back to top	
File G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NewsCardViewHolder.java	Line
Error Description	
Back to top	
File G:\Github_Repository\main-project-repository-soad\src\main\java\com\google\code\labs\mdc\java\three\News\NewsGridFragment.java	

Applying rule set filter for exclusions: The rule "UncommentedEmptyMethod" has been renamed to "UncommentedEmptyMethodBody". Please check the documentation for more details.
Applying rule set filter for exclusions: The rule "UncommentedEmptyMethod" has been renamed to "UncommentedEmptyMethodBody". Please check the documentation for more details.

BUILD SUCCESSFUL in 8s
1 actionable task: 1 executed
22:25:23: Task execution finished 'pmd'.

5.2 Static analysis tools

[FindBugs](#) Report

Project Information

Project:

FindBugs version: 3.0.1

Code analyzed:

- G:\GitHub_Repository\main-project-repository-ood\app\build\intermediates\javac\debug\compileDebugJavaWithJavac\classes

Metrics

10415 lines of code analyzed, in 286 classes, in 34 packages.

Metric	Total	Density*
High Priority Warnings		0.00
Medium Priority Warnings		0.00
Total Warnings	0	0.00

(* Defects per Thousand lines of non-commenting source statements)

Contents

- [Details](#)

Summary

Warning Type	Number
Total	0


Warnings

Click on a warning row to see full context information.

Details



5.3 Scenerios

- Whoever and whenever you want to read news you can use our app.
 - Users with different kinds of occupations want to read different news, we have divised an occupation information to represent news more accurately.
 - When people have sparse time, they can use our app for news reading
- 

The background of the slide is composed of several elements. On the left, there is a vertical bar with a black top half and an orange bottom half. The number '6' is centered in the orange section. To the right of this bar is a horizontal band featuring a black and white photograph of a modern building's facade, characterized by strong diagonal lines and a grid of windows. The rest of the slide is a plain white background.

6

Conclusion and future work



6.1 Conclusion


We have implemented most of features we listed. But there are still a few features we didn't reach.

- Dialogue type news presentation: UI Acts likes talking with someone.
- Import a file: To upload avatar.





6.2 Future Work

- We have learned test, static analysis, ui design, tensorflow during the project.
 - Difficulties are different test scenarios, using some new techniques, beautiful ui design...
 - We wish we could have done the Avatar and collection.
 - We need bigger data set to train, and get a more accurate recommender. And there are still many problems in fragment.
- 



Q&A

Thanks For
Listening!