FINAL
REPORT

Three News

Final Project of Software Engineering

叁闻

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Introduction

Background and introduction

1.1Background

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 recommend three news, users can see the details by choosing the news, or users can get specific news using search.

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

3.2 News Details
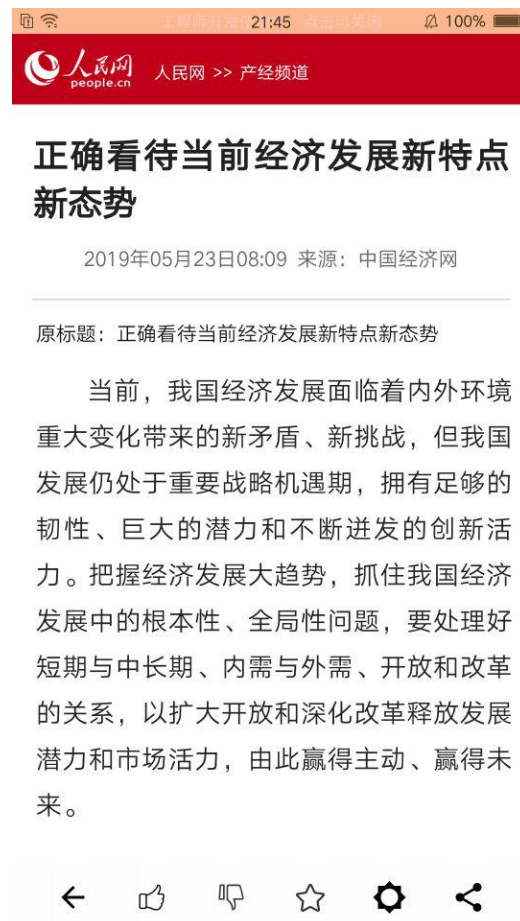
When you select the news you can see the detail of the news.

3.3 Search for news

≡ ◈ 叁闻   🔍

正确看待当前经济发展新特点新态势

当前，我国经济发展面临着内外环境重大变化带来的新矛盾、新挑战，但我国发展仍处于重要战略机遇期，拥有...

中国是人工智能专利布局最多的国家

近日，中国新一代人工智能发展战略研究院发布了《中国新一代人工智能科技产业发展报告（2019）》和《...

职场不是秀场 形式主义加班拖垮年轻人

"形式主义加班"戳中了这届年轻人的痛点。

太赫兹波......个......阻......的未来战争

THREE NEWS

🔍 请输入搜索内容   取消

彩票开奖结果	百度市值跌破400亿
女星与出租司机冲突	顾年时向杨洋道歉
王濛任教练组组长	栗蓉磅蛋糕做法大全
山魈是什么动物	乐视董事长离职
奥迪女掌掴女童	广州车位只售不租
怎么腌制芥菜	熬出好猪油教学视频
龙卷风袭击美国	小米副总裁被拘留

← 👍 👎 ☆ ⚙ ↗
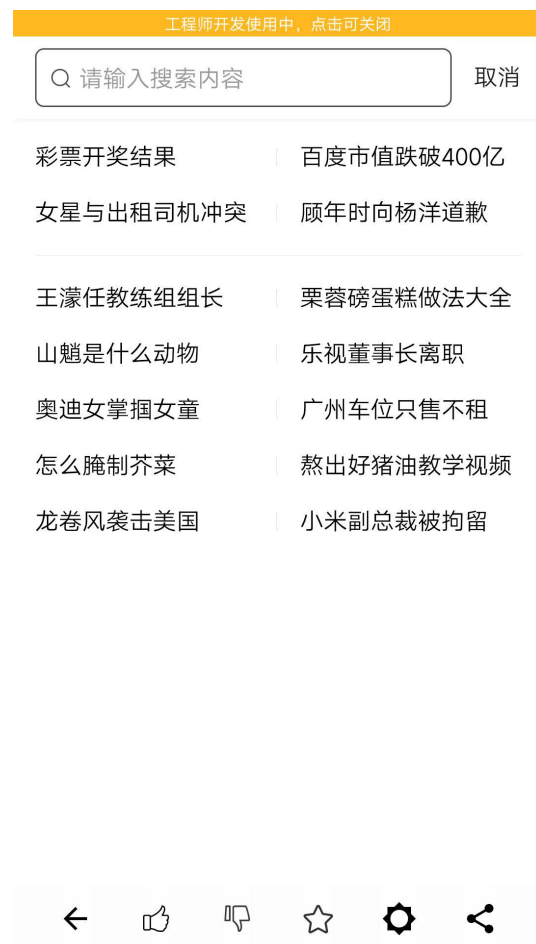
If you want to search some spercific news, you can press the research button to get what you want.

3.4 Like and dislike

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

If you want to collect some news, the "star" button will help you do this.
By the way, we divise 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 recommanding news

The main step of recommanding:

1) Two of the three news are recommanded by the tags which user likes

2) One of the three news is recommanded by NLP and Supervised Learning Model implemented in Tensorflow Lite

3.8 Recommand

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
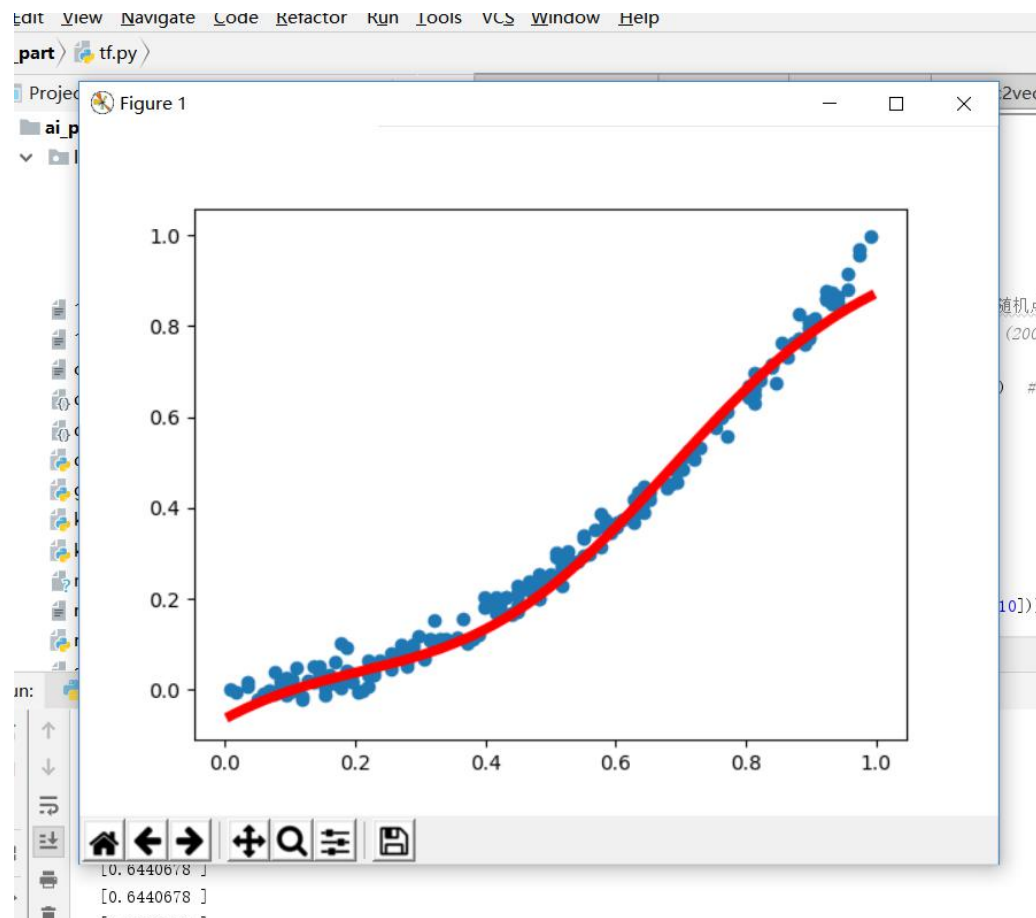
Then, we implemented a non-linear regression by Tensorflow

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

You can update your user information.

which includes:
1. gender
2. occupation
3. birth year
4. User avatar

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

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

5.2 Static analysis tools

FindBugs Report

Project Information

Project:

FindBugs version: 3.0.1

Code analyzed:

- G:\GitHub_Repository\main-project-repository-ooad\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

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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 learnd 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 done the Avator and collection.

- We need bigger data set to train, and get a more accurate recommander. And there are still many problems in fragment.

Q&A

Thanks For Listening!