Snappat

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APP Introduction

- Our project is a novel photo social application by solving puzzles.
- A puzzle is a photo with labels. Users can public a puzzle by taking a photo, and our application will perform object detection, thus attaching several labels to this photo.
- Once a puzzle has been published, users can solve this puzzle accidentally by taking similar photos with same labels. Also, object detection is used in labeling the photos.

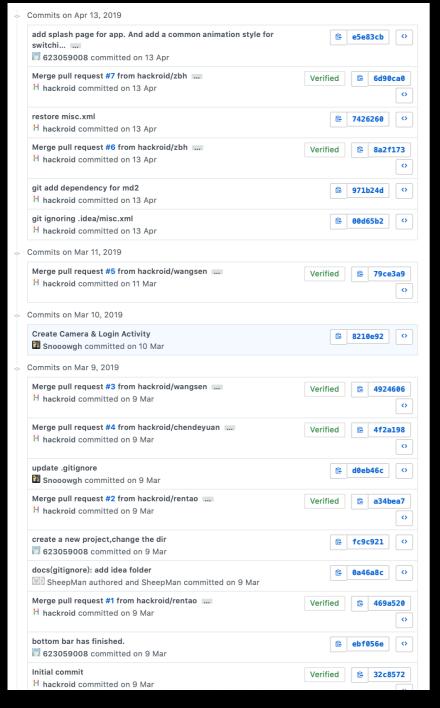
Feature

- Login/Register With Phone
- Object Recognition/Scan
- Android View Pages: Home/Notify/Mine; Publish/Scan/Scan Result

TimeLine

| Week No. | Plan/Feature | | |
|----------|-----------------------------------|--|--|
| Week 4~9 | Project launch/Base Project build | | |
| Week 10 | Object Scan&Recognization | | |
| Week 11 | Back End/User System | | |
| Week 12 | Treasure Publish | | |
| Week 13 | Treasure Discover | | |
| Week 14 | Home Page: Treasure show | | |
| Week 15 | Mine Page/User Login | | |

Github history



| finish all javadoc and util test; finish report for version 2.0 William-WZL committed 11 days ago | ଛ 34c8467 ○ |
|--|---------------------------|
| 去除了一个高危bug,登录后获取信息可能失败会无限递归注册 1 623059008 committed 11 days ago | ଛ 7635272 ♥ |
| 解决了后端交互数据结构的 bug █ 623059008 committed 11 days ago | € 5107dd3 ○ |
| add more test William-WZL committed 11 days ago | ₿ b674f47 |
| Merge pull request #46 from hackroid/zbh H hackroid committed 11 days ago | Verified |
| png file restore H hackroid committed 11 days ago | ₿ e768e66 |
| Merge pull request #45 from hackroid/revert-44-revert-43- wangsen H hackroid committed 11 days ago | Verified 6 c845776 |
| Revert "Revert "Wangsen"" H hackroid committed 11 days ago | Verified 6f01fe8 |
| Merge pull request #44 from hackroid/revert-43-wangsen H hackroid committed 11 days ago | Verified |
| Revert "Wangsen" H hackroid committed 11 days ago | Verified 891caf7 |
| Merge pull request #43 from hackroid/wangsen H hackroid committed 11 days ago | Verified aac3e56 |
| merge Booowgh committed 11 days ago | ₿ b3b543d |
| fix no icon Snooowgh committed 11 days ago | ⊕ 07b28bd ○ |
| Merge pull request #41 from hackroid/tmp H hackroid committed 11 days ago | Verified |
| removing fucking vscode H hackroid committed 11 days ago | ₫ d70469c |
| Merge pull request #40 from hackroid/zbh H hackroid committed 11 days ago | Verified 287b669 |
| merge zbh master H hackroid committed 11 days ago | ଛି 4125e89 ○ |
| ignoring fucking vscode H hackroid committed 11 days ago | 2b495f1 |
| zbh merge master H hackroid committed 11 days ago | € f777683 ○ |
| homofragment top bar design H hackroid committed 11 days ago | ଛ 29c3b41 |

| onninco on may 2-1, 2010 | |
|---|--------------------------|
| Merge pull request #59 from hackroid/cdy | Verified 🕏 ed69cd6 |
| H hackroid committed 35 minutes ago | |
| Merge branch 'master' into cdy | Verified © c8f1764 |
| H hackroid committed 36 minutes ago | |
| res sheepmanchen committed 43 minutes ago | 88e6601 |
| Merge pull request #62 from hackroid/zbh | Verified 6 07ef696 |
| H hackroid committed an hour ago | |
| Merge pull request #60 from hackroid/wangzelin | Verified 2c0c66k |
| H hackroid committed an hour ago | |
| Merge pull request #61 from hackroid/wangsen | Verified 🕏 5f42bft |
| H hackroid committed an hour ago | |
| con change | ⊕ 8a9714a |
| Snooowgh committed an hour ago | |
| add javadoc for HomeFragment H hackroid committed an hour ago | <pre>⊕ 9a9fe1e</pre> |
| Merge branch 'master' into cdy | Verified 🖺 1e40045 |
| H hackroid committed an hour ago | (|
| add doc and more test | € 7371779 |
| William-WZL committed an hour ago | |
| finish scan match mestery sheepmanchen committed an hour ago | aea74bf aea74bf |
| Merge pull request #58 from hackroid/wangsen | Verified |
| H hackroid committed 2 hours ago | verified |
| scan result page | ₿ 98b8375 |
| Snooowgh committed 2 hours ago | ⓑ 98b8375 |
| fix scan bug | ଛ c542de3 |
| Snooowgh committed 10 hours ago Merge pull request #56 from hackroid/wangzelin | |
| H hackroid committed 11 hours ago | Verified 6 b10507 |
| Merge branch 'master' into wangzelin | Verified 😩 c74881 |
| H hackroid committed 11 hours ago | |
| Merge pull request #57 from hackroid/zbh | Verified 🕏 ee37b3c |
| H hackroid committed 11 hours ago | |
| | |
| main page refresh data H hackroid committed 11 hours ago | € 6424359 |

FrameWork

- "MVP" design model
 - Friendly for team work
 - Easy for integration
 - Elegant project structure

Library

- HiPermission: more friendly permission request
- Tensorflow Lite: easy to implement ML model
- Qmui : better UI
- OkHttp: useful network request tools

Backend Technique

- ThinkJS
- Mysql: MySQL is still the most used and preferred open source database. Many companies, unicorns, and today's world biggest online companies like Facebook, Twitter, and Booking.com chose to rely on MySQL.
- Nginx: Nginx is an HTTP and reverse proxy server, a mail proxy server, and a generic TCP/UDP proxy server.
- Istanbul Nyc: Istanbul instruments your ES5 and ES2015+ JavaScript code with line counters, so that you can track how well your unit-tests exercise your codebase. The nyc command-line-client for Istanbul works well with most JavaScript testing frameworks: tap, mocha, AVA, etc.
- AVA: AVA is a test runner for Node.js with a concise API, detailed error output, embrace of new language features and process isolation that let you write tests more effectively. So you can ship more awesome code.
- ApiDoc: apiDoc creates a documentation from API annotations in your source code.

Classifier model: SSD + MobileNets

- ssd: single shot detector
- 1. detecting objects in images using a single deep neural network
- 2. discretizes the output space of bounding boxes into a set of default boxes over different aspect ratios and scales per feature map location.
- MobileNets: proposal by Google, a network design for embedding equiments
- 1. MobileNets are based on a streamlined architecture that uses depth-wise separable convolutions to build light weight deep neural networks
- 2. hyper-parameters:
- width multiplier
- resolution multiplier : input resolution
- These allow the model builder to choose the right sized model for their application based on the constraints of the problem.
- Balance delay and accuracy.
- Training data: COCO

Login/Register





Publish





| 22:59 🚨 🔟 🗎 | <u>™</u> • (*) (*) (*) (*) (*) (*) (*) (*) (*) (*) |
|-------------|--|
| < | 添加谜题 |
| | |
| 解谜词: 人名 | 笔记本电脑 |
| 提示: 人和筆 | 管记本电脑 |
| 奖励金额: | 2 |
| Test人笔记本 | |
| | |
| | 发布 |
| | |
| | |

Discover







Personal Page



Test

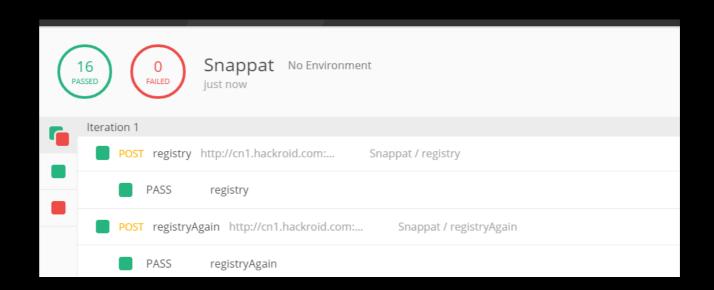
- backend: AVA -- a test runner for Node.js with a concise API, detailed error output, embrace of new language features and process isolation that let you write tests more effectively
- HTTP API: Postman Postman is the only complete API development environment, and flexibly integrates with the software development cycle
- AndroidTest and static analyse: Junit, espresso

Test

backend:

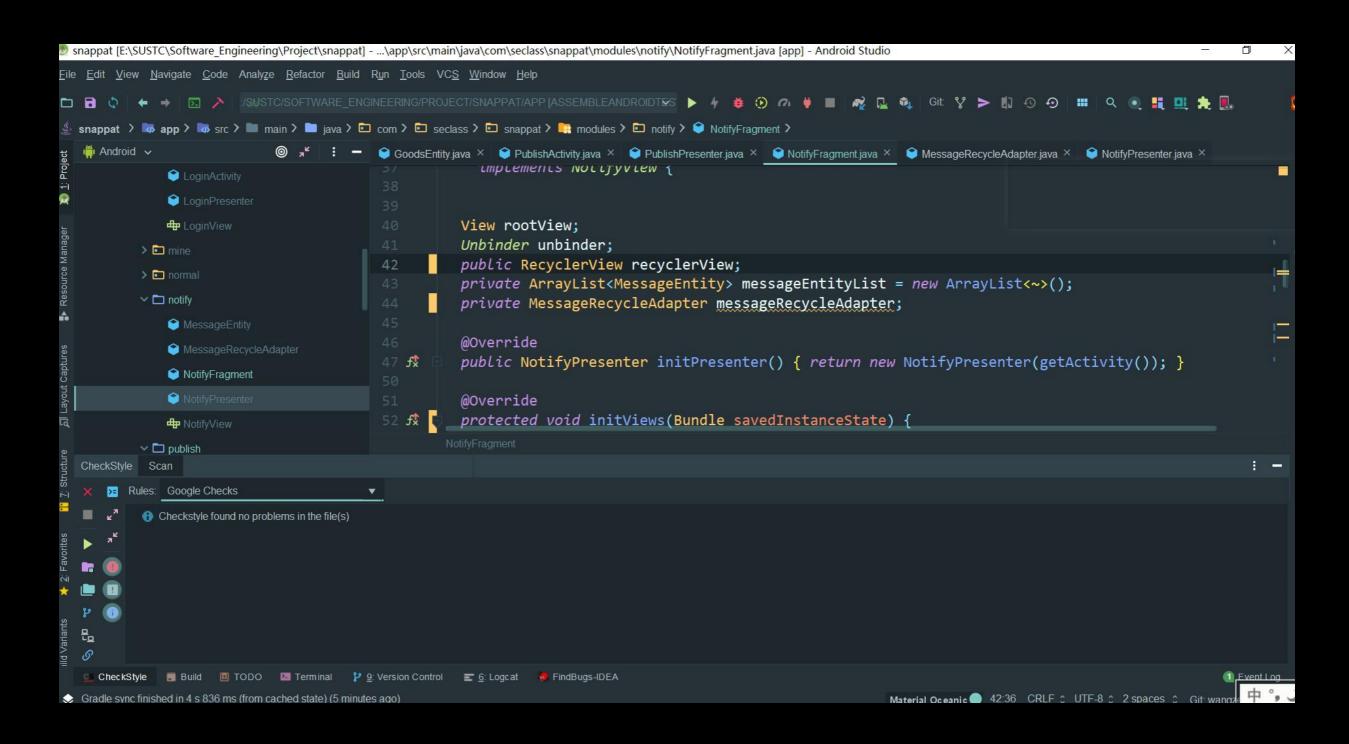
| File | % Stmts | % Branch | % Funcs | % Lines | Uncovered Line #s |
|-------------|---------|----------|---------|---------|-------------------|
| All files | 4.48 | 0 | 0 | 4.5 | |
| base.js | 100 | 100 | 0 | 100 | |
| index.js | 66.67 | 100 | 0 | 66.67 | 5 |
| registry.js | 7.14 | 0 | 0 | 7.14 | 46,48,49,50,63 |
| user.js | 2.37 | 0 | 0 | 2.38 | 95,401,402,406 |
| | | | | | <u>-</u> |

• HTTP API:



 AndroidTest and static analyse: do UI test for most active which can be test

static analysis



Results demonstrating

- know strangers
- be familiar with friends:
- kill time
- find star in daily life

Conclusions

We had implement most part of feature we designed in first report, except some UI and some detail function.

Future Work

- Lessons:
 - Better framework will give more help to development
 - Frequently discuss will help to development
 - Better division of work will help to development

- Difficult:
 - Photo recognize
 - UI design

Future Work

- What do you wish you could have done:
 - Better UI
 - Leave message and Like

- How could your project be extended :
 - Implement more feature and detail
 - Do better UI