

A Bright Ally  
For the Visually Impaired

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PolyU  
HKUST  
PolyU



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1/20 of us is visually impaired



Use  
smartphones  
everyday



**SENSE+**



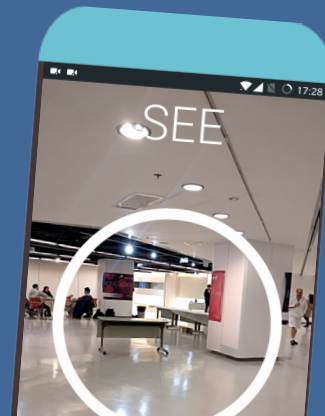


# Computer Vision



**Comprehensive  
Online Information**

**Computer Vision**



# Functions

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See  
Friends



See  
Cash

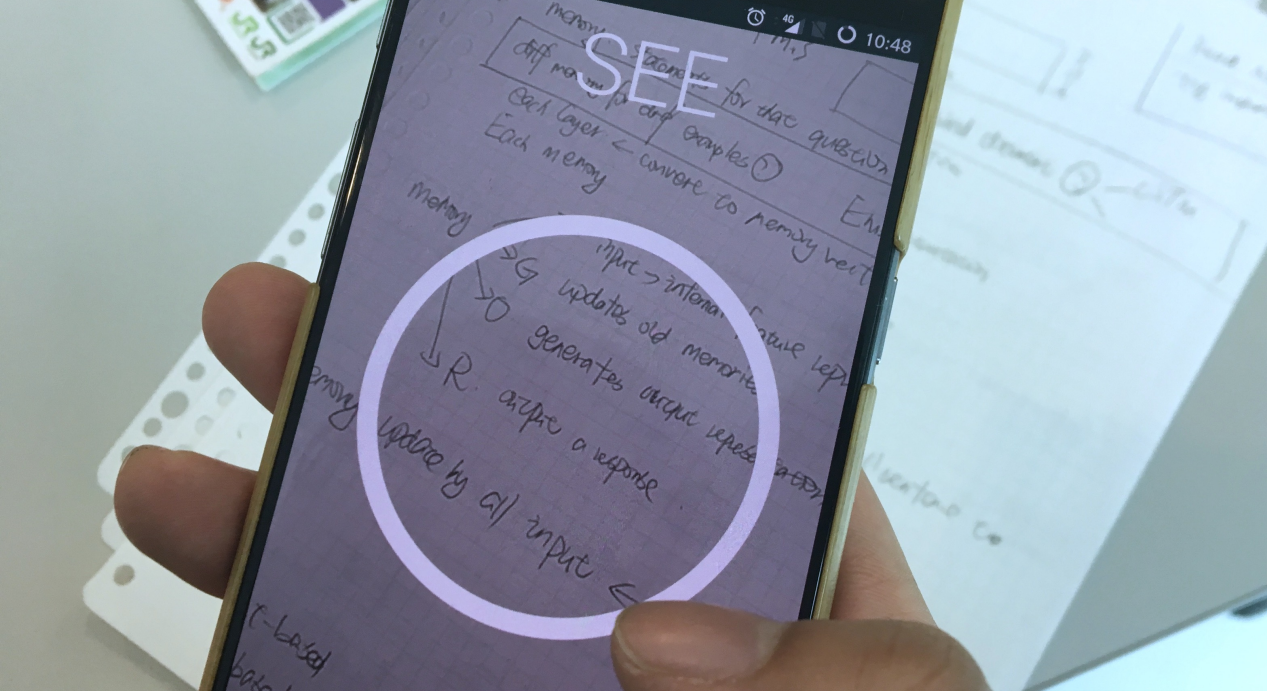






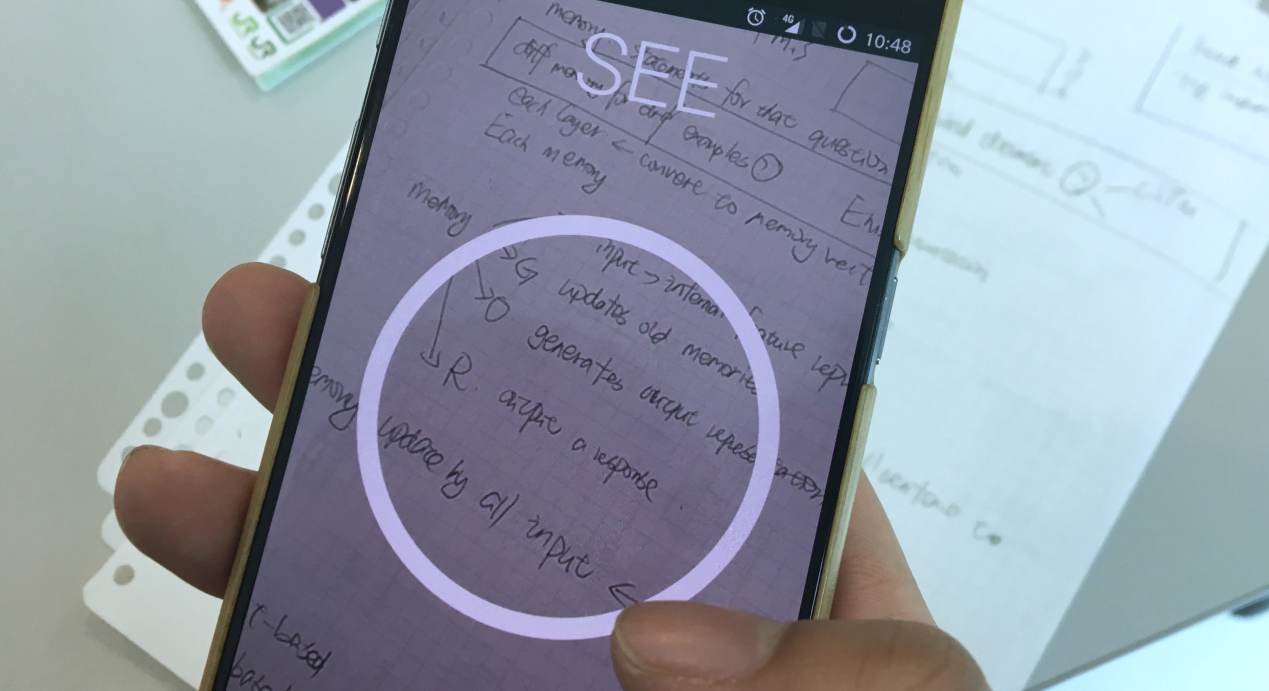
See  
Text  
+ More Info





# Read Text

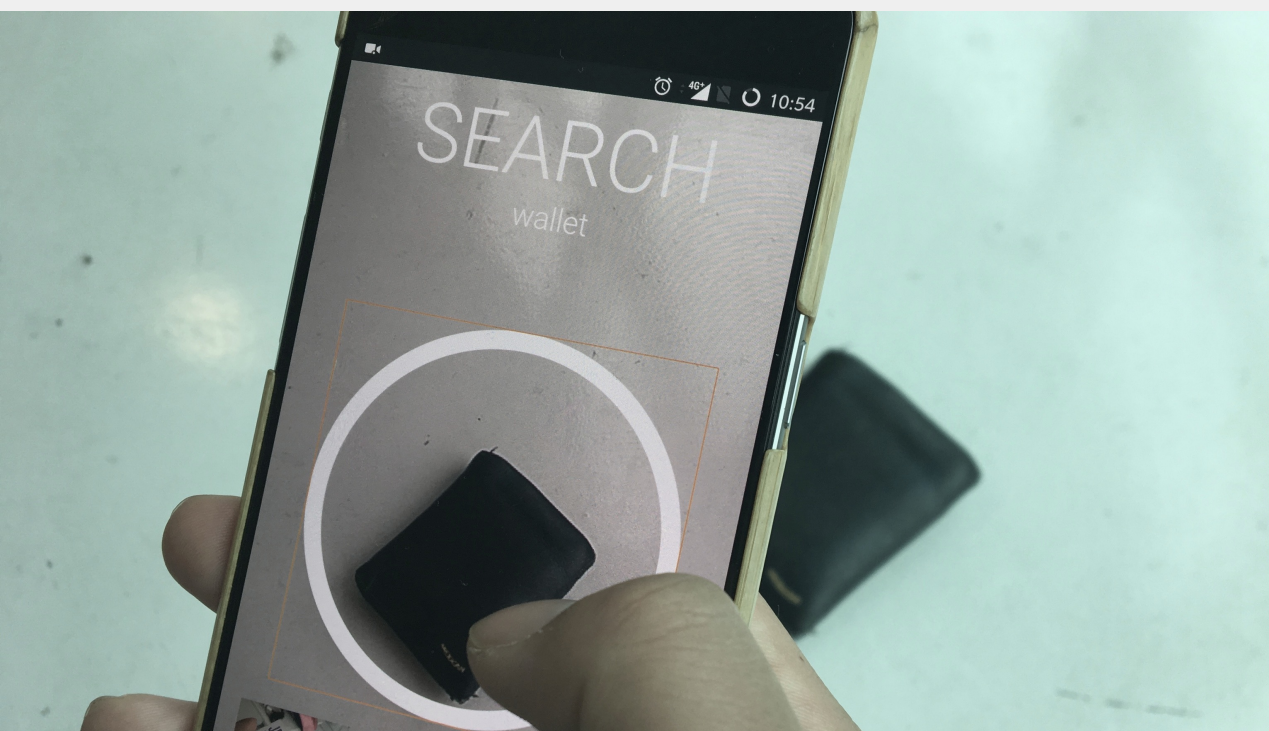
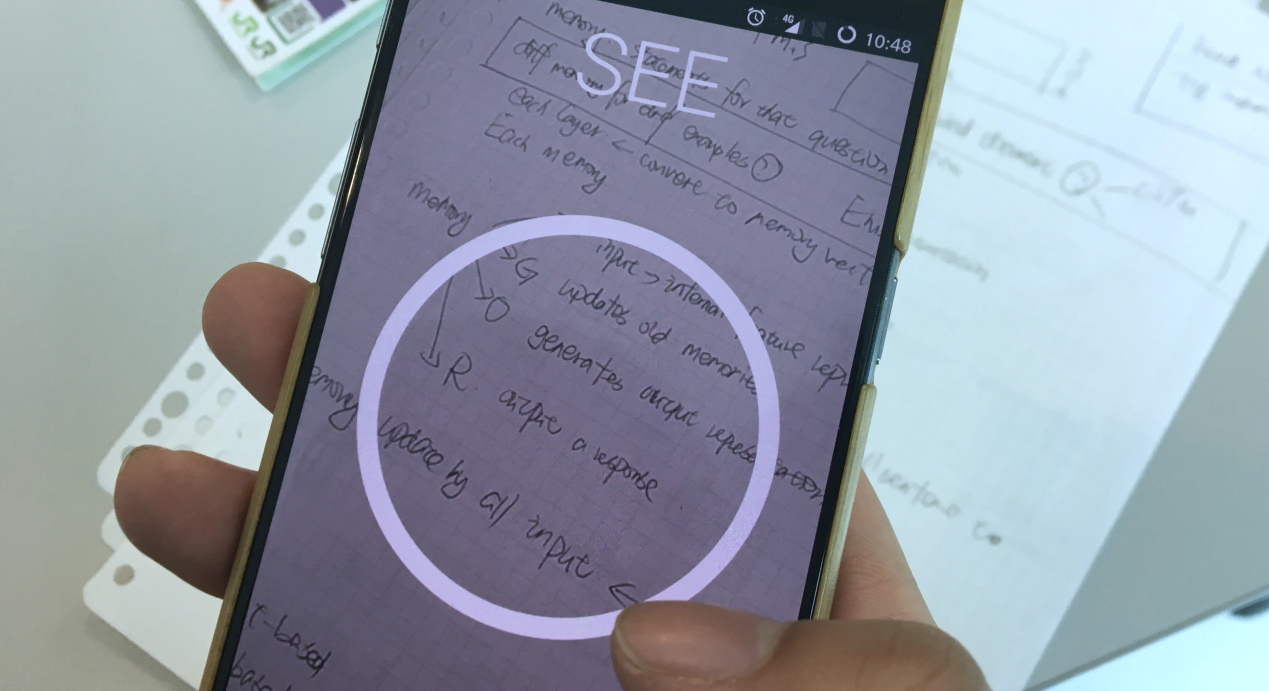
Read books for **amblyopia** children



# Scan Barcode

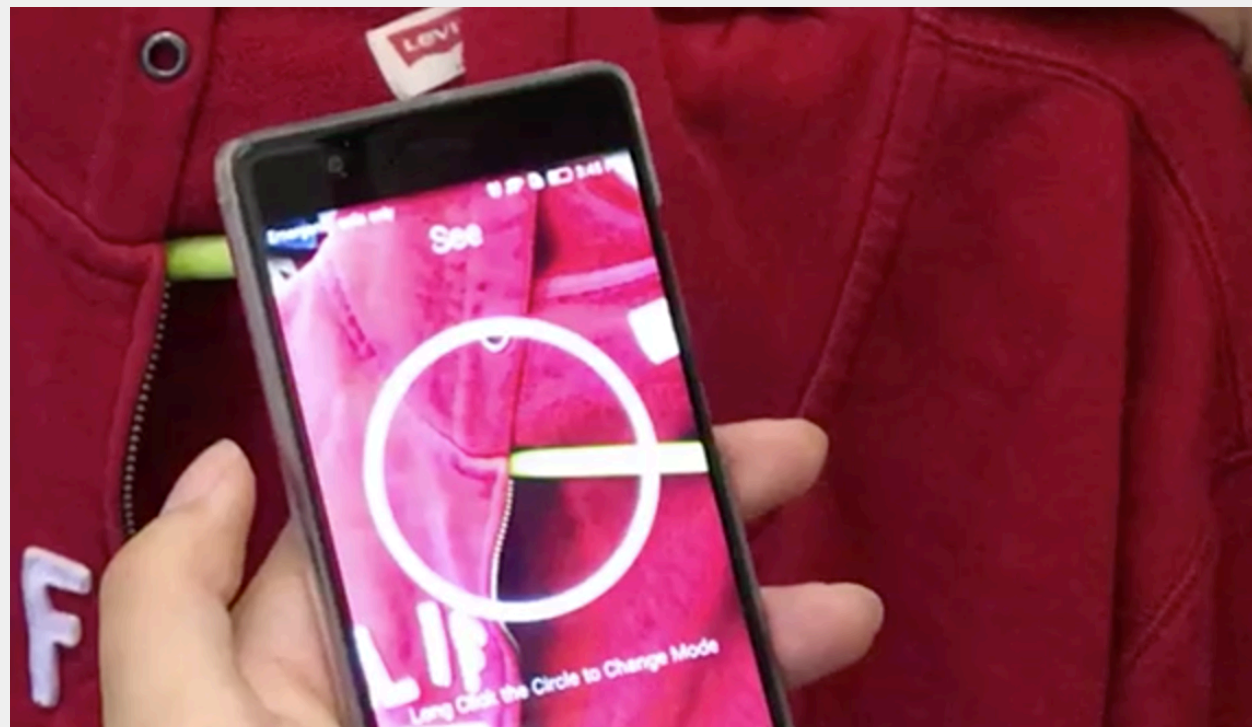
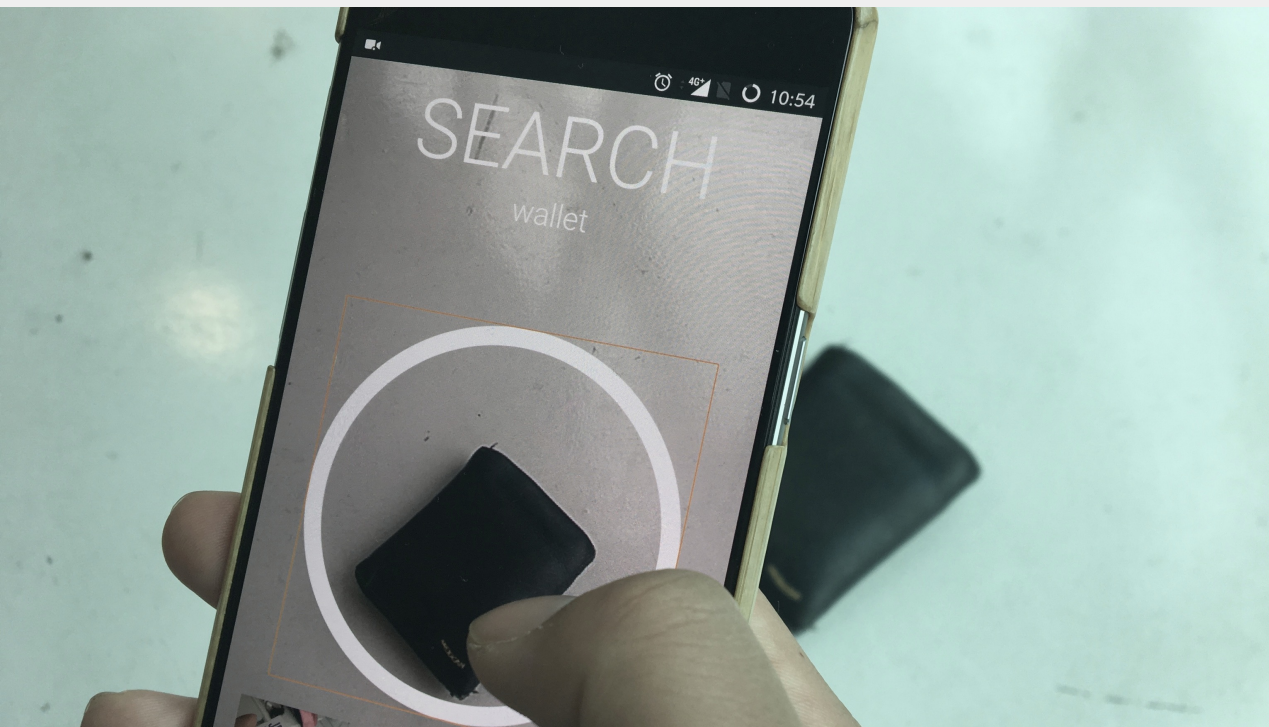
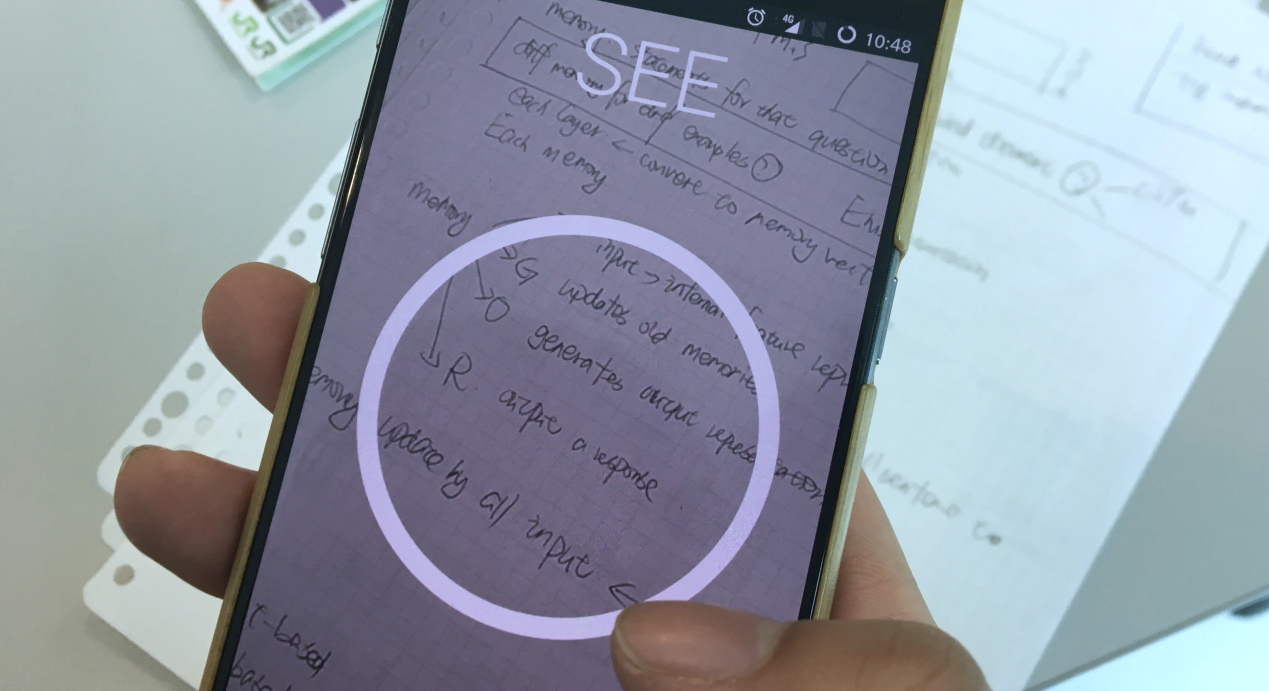
Get more **details** about goods





Search





Objects'  
Price

Online  
Searching

Event  
Info

Restaurant  
Rating

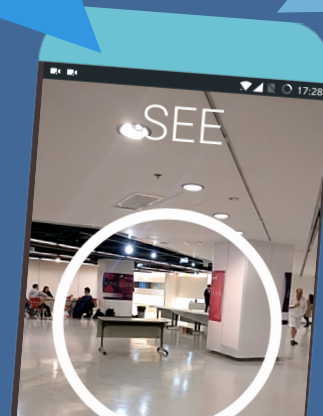
Search

Cash

Barcode

Friends

Text



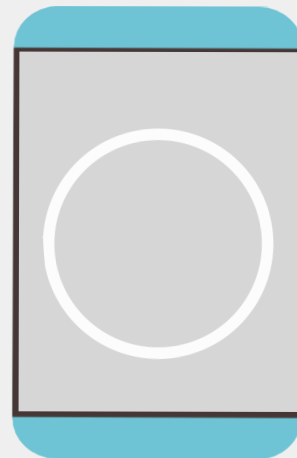
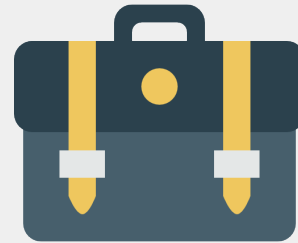


# Personalized

**Friends**

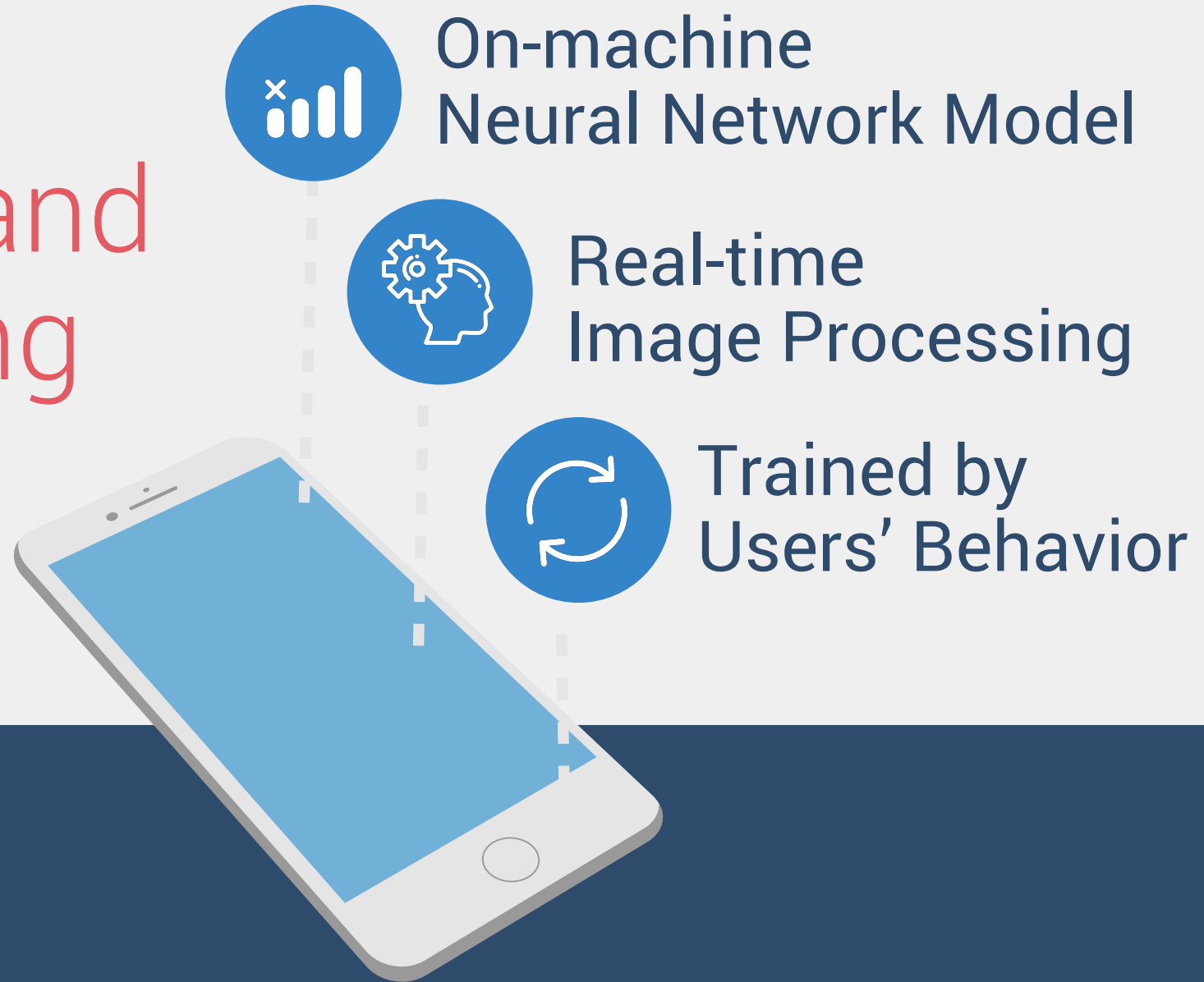


**Belongings**

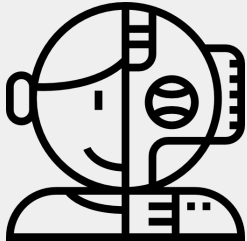
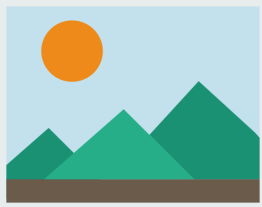




# Offline, Real-time and Self-learning



# How Does It **Work**?



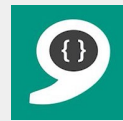
## Image Processing and Object Detection



Microsoft Cognitive APIs



## Online Information and UX



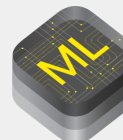
Microsoft Language Understanding Intelligent Service



Online Information APIs, Bing Search



## Offline Real-time Machine Learning



iOS CoreML



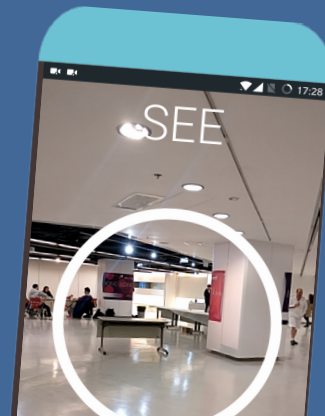
TensorFlow Lite

# Business Model

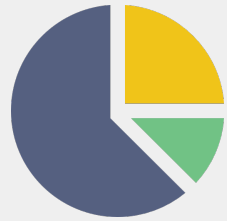
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**Premium Version:  
Comprehensive  
Online Information**

**Free Version:  
Computer Vision**



# Target Market: Hong Kong & Mainland China



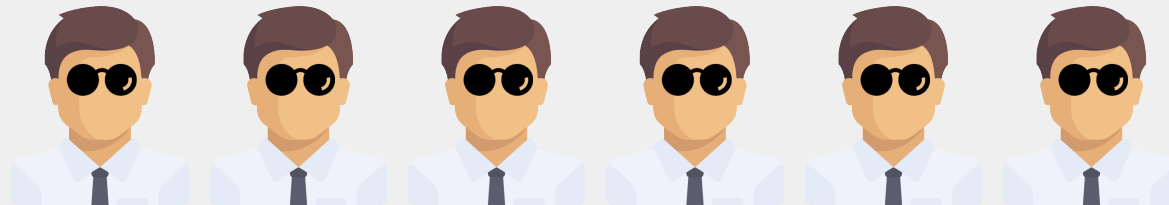
Number of Visually Impaired People

174,800+

Hong Kong

13,000,000+

Mainland China



# Target Users



Visually Impaired



Amblyopia children

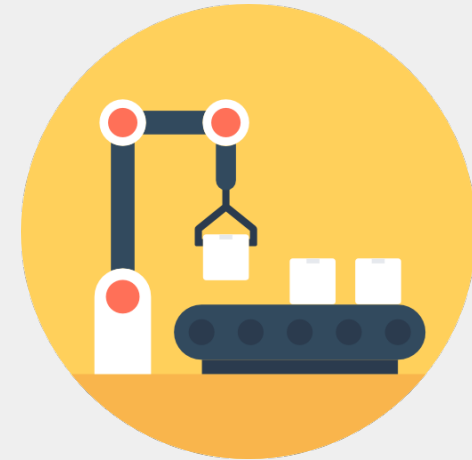


Elders with eye diseases



NGOs

# Sponsorships



Manufacturers of Assistive Tools



# Team Capability

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# SENSE+ Team



MA Mingyu  
Derek

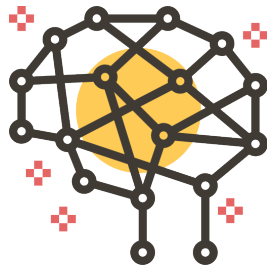
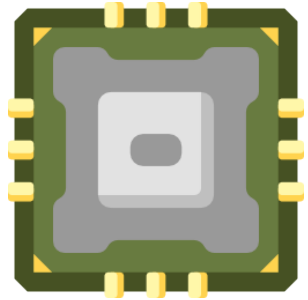


WANG Shi  
Nona



CHANG Shuhao  
Constan

# Tech + Design + Business



- AI
  - Natural Language Processing
  - Computer Vision
- Hardware
- Design
- Cloud
- Marketing

Team Formed

Champion of PolyU Smart Computing Competition



Champion of Microsoft Imagine Cup 2017 Hong Kong Region



Media Coverage



Interviewed by ViuTV



InnoCarnival Showcase



## Innovation & Tech

AI (Computer Vision, Language Understanding, Offline image processing, self-learning)

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## Commercial Feasibility

**Large market** (Visually impaired, Elderly with eye diseases, amblyopia children, etc.)  
**Sponsorship**

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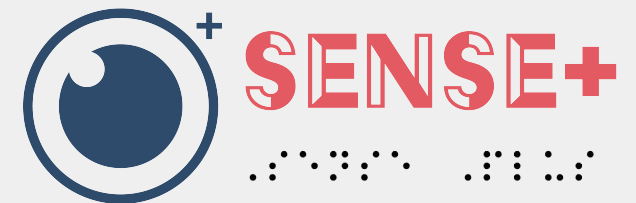
## Team Capability

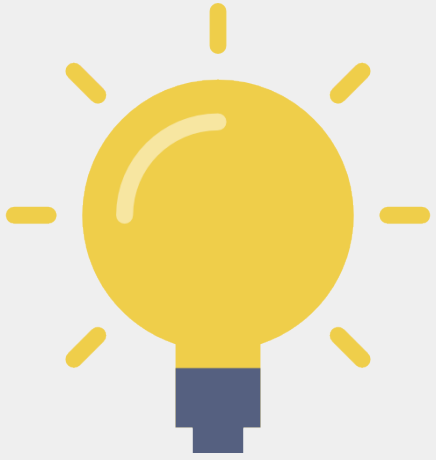
Background (Tech + Design +Business)  
Awards  
Media coverage

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## Social Impact

Care **visually impaired**  
Improve their life quality





Smart and  
Nice **Ally**

