Banknotes Recognizing For Visual Impaired On Android Device

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This project investigates the limitation on the tools of banknotes recognizing for visual impaired in Hong Kong. Most of the foreign countries have already developed a various mobile application and banknotes sensors for visual impaired while there is not many development on Hong Kong but traditional tools such as banknote measuring template, which is highly inefficient. Therefore, we aim at providing an efficient application for visual impaired to replace the traditional tool, which is faster and easy to use, compared to tradition tools.

2. Project Aim

The aim of this project is to make use of mobile phone and the camera to prevent the inconvenience from using tradition tools on banknote recognizing when buying stuffs.

There are two main concepts on this project: image recognition and speech to voice system.

With different values of banknote and different editions from different banks provided, applying image recognition to distinguish among each other is important for visual impaired.

In order to help visual impaired to recognize, using speech to voice to notify the user is vital. User will need to know the value of banknote, the process of recognizing banknote so that user will know how to manipulate the application properly.

3. Project Objectives

To achieve the aim, the main objective is to develop a image recognition and speech to voice system that can distinguish different banknotes and translate it to voice feedback to the user.

1. A user-friendly layout of the application as we need to provide simple UI for visual impaired. The UI would be in the form of camera as soon as the user run the application and will keep running recognition progress until user shut it down.
2. Develop a image recognition system that can distinguish from different value of banknote. An algorithm of recognizing the value printed on the note is needed to be developed.
3. Provide a voice feedback to user whether the application has successfully recognize a note and the actual value that is printed on the note. Some voice guidance when using the application will also need to be provided, such as the user should be notified if the application has been idled for a period of time without recognizing any note.

4. Impact and value of Project

* For visual impaired who have problem on identify different banknote accurately and efficiently can be benefited as our banknote recognizing mobile application can help them to recognize banknote by using camera with voice feedback.
* Raise the awareness of visual impaired life that have limited support from the society.
* Encourage government to invest more on helping visual impaired by developing new products.