METU, Department Of Computer Engineering
Graduation Project
Proposal Form

(Please read carefully, and follow the instructions to prepare the project proposal form.)

(Instructions to fill in this form are given in italic fonts and in parentheses.)

(To provide an input for a section of the form, delete the instruction and provide your input in place of the deleted instruction. In the final form that you will submit, there shouldn't be any instructions left over, including this section of the form.)

(If you feel that a particular instruction is not relevant to your project proposal, please use a proper explanation for this, rather than ignoring the instruction.)

(The final form should not exceed 4 pages, excluding this page and including the References section. Please use Arial, Normal, 10pt fonts and single line spacing.)

Important Notes

A project could be proposed by (i) a student group, (ii) a company, or (iii) a faculty member of the department by filling in this form and submitting it to 49x-proposal@ceng.metu.edu.tr by e-mail. For a project proposal, there might be a sponsoring company supporting the project and providing some form(s) of resources for the project.

If your proposal might contain a patentable idea or any type of intellectual property, please first make sure to follow appropriate steps (apply for a patent, etc.) before sending your idea to us. Once this form is received from you, the instructor(s) and the department has no responsibility regarding to intellectual properties of your project/idea.

All sources and documentation developed for this course are assumed to be public domain (GPL, CC or similar license) by default. If you need any exception for license and disclosure of project work, please specify this in detail in IP section of the form.

Please note that source codes, documents and issue tracking should be kept in department servers. No restrictions can be requested for limiting faculty and assistants access to student work.

Project Information

Title

An Android application which will show how many numbers the lottery coupon got in the lottery.
The application will perform on four different type of game coupon: Sayisal Loto, Şans Topu, On Numara, Süper Loto

Target

Public [ ]   Restricted [**X**]

This project is restricted to the group of two people:
1. Mesut Yılmaz / 1881622
2.Ulaş Dallı / 1678820

Proposer Information

Name(s)	Mesut Yılmaz, Ulaş Dallı
E-Mail(s)	yilmaz.mesut@metu.edu.tr

IP (Intellectual Property) Information

(Include information about how the project group -and possibly the sponsor- agreed on the intellectual property rights of the end-products –if any.)

Project Description and Background Information

Description

It is really painful for one to check the lottery results with the numbers on his/her coupon.It takes 5-6 minutes on average.To make this process easier the mobile application will be used.User will get the coupon results by just taking the picture of his/her coupon with his/her mobile phone, and the application will show the results in seconds.

Similar Products/Projects

Currently, there is no mobile application which does this job on the market.This project will be first in the market.
There are some projects which also use OCR(Optical Character Recognition) technology, such as "Plate Recognition" for cars, which requires both image processing and OCR technology.

Justification of the proposal

- Opening the mobile phone's camera in the necessary options, implementing camera functionality.
- Image processing of user taken photo, so that the numbers on the coupon will be clear.
- Detecting the number block on the coupon and extracting it for OCR.
- Training the font of numbers to OCR program so that OCR will be accurate.
- Choosing or eliminating the right numbers from OCR output text file.
- Preparing a trainneddata for every coupon types (Sayisal Loto, Süper Loto, On Numara, Şans Topu)
- Integration of OpenCV and Tesseract Libraries to Android development environment.
- Downloading the results of (lucky numbers) the lottery from Milli Piyango's website and processing the data for comparison.
*- Mobile software development.*

Contributions, Innovation and Originality Aspects of the Project

There is no similar application on the mobile market that does the same job.This application will make the comparing the lottery results process way faster.The user just need to take a picture of the coupon.
Nowadays almost everyone has a mobile phone, so we are expecting that the project will reach the ones who play chance games easily.

Technical Aspects of the Project

The diagram below simply shows the operations that will performed on the device.
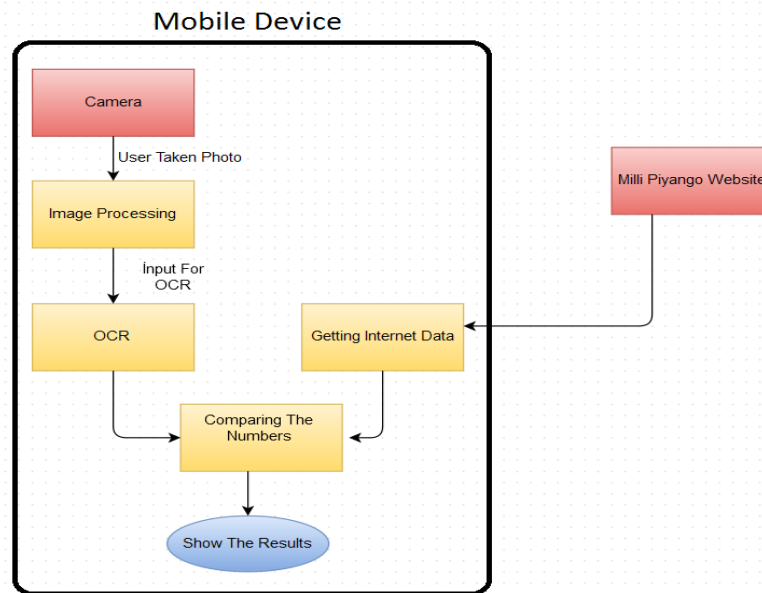
Targeted Output, Targeted User/Domain Profile

The project will have very fiendly user interface that will direct the user to take photo.
The people have a mobile phone with a camera and play Milli Piyango's chance games are the targeted users.

Project Development Environment

The project will be developed on Windows mostly.
Eclipse IDE will be used.
Android SDK, Android NDK will be integrated to Eclipse.
OpenCV libraries will be integrated for Android development.
Tesseract OCR Android libraries will be integrated to Eclipse.
Java programming language will be used for Android development.
C++ and CodeBlocks will probably used to test image processing algorithms.

External Support

References

For the chance games: http://millipiyango.gov.tr/
Tesseract: https://code.google.com/p/tesseract-ocr/