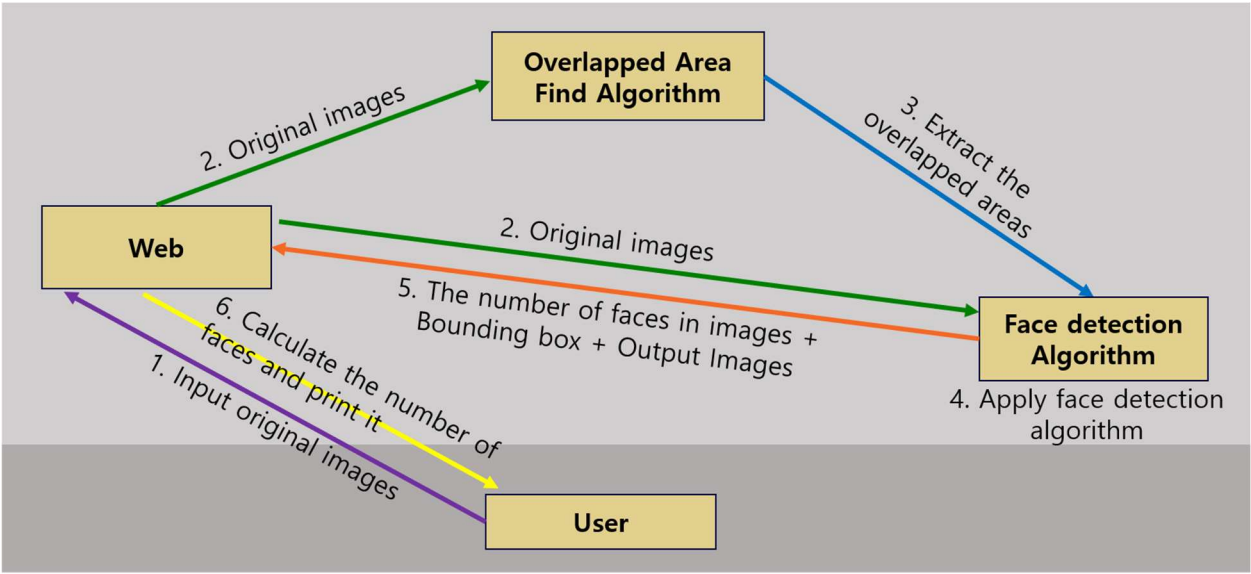


Project Experiences

1. Online Marketplace Web Application

Purpose	To build web application for a start-up that sells *meal-kit online (*meal-kit : pre-portioned and partially-prepared food ingredients to prepare homecooked meals)
Period	08/2019 – 12/2019
Technique	Python, Django Framework, MySQL, AWS, Git
Role	<ul style="list-style-type: none">‣ Design database and develop server‣ Develop some parts of main functions for online marketplace – product search, cart, create/delete/modify comment, recipe
Contents	<ul style="list-style-type: none">‣ Compositions : 2-depth category, navigation bar(self-production products, recommended products, bestseller, new products, today's deal, recipe), real-time posts from social media‣ Functions : search, cart, pay, create/delete/modify comment

2. Attendance Check Web Application using Face Detection

Purpose	To research for the graduation thesis – The secondary verification of attendance to prevent fake attendance
Period	04/2019 – 06/2019
Technique	Python, Flask Framework, OpenCV, Tensorflow, Numpy
Role	<ul style="list-style-type: none">‣ Make each programs of image processing and face detecting together‣ Develop web server‣ Design responsive page using Bootstrap
Contents	<ul style="list-style-type: none">‣ System Flow  <pre>graph TD; User -- "1. Input original images" --> Web; Web -- "2. Original images" --> OAF[Overlapped Area Find Algorithm]; OAF -- "3. Extract the overlapped areas" --> FDA[Face detection Algorithm]; FDA -- "4. Apply face detection algorithm" --> FDA; FDA -- "5. The number of faces in images + Bounding box + Output Images" --> Web; Web -- "6. Calculate the number of faces and print it" --> User;</pre> <p>The diagram illustrates the system flow for the attendance check application. It involves three main components: the User, the Web, and two algorithms: the Overlapped Area Find Algorithm and the Face detection Algorithm. The process begins with the User providing input images to the Web. The Web then sends these original images to the Overlapped Area Find Algorithm. This algorithm extracts overlapped areas and sends them to the Face detection Algorithm. The Face detection Algorithm applies the face detection process and returns the number of faces, bounding boxes, and output images to the Web. Finally, the Web calculates the number of faces and prints it back to the User.</p>

Contents

► The way we count the number of faces in input images



► Algorithms

- FAST(Features from Accelerated Segment Test) : compare the brightness of pixels to find the corner
- Harris Corner Detection : move the small square over the image and observe if there is a significant change in all directions to find the corner
- Image Pyramid : make the image in various sizes and choose the corner precisely
- MTCNN : consists of P-Net, R-Net and O-Net and detect faces
- NMS(Non Maximum Suppression) : reduce the redundancy

3. Arduino Project : Drawbridge

Purpose

For studying Arduino – implement drawbridge using Arduino

Period

04/2016 – 06/2016

Technique

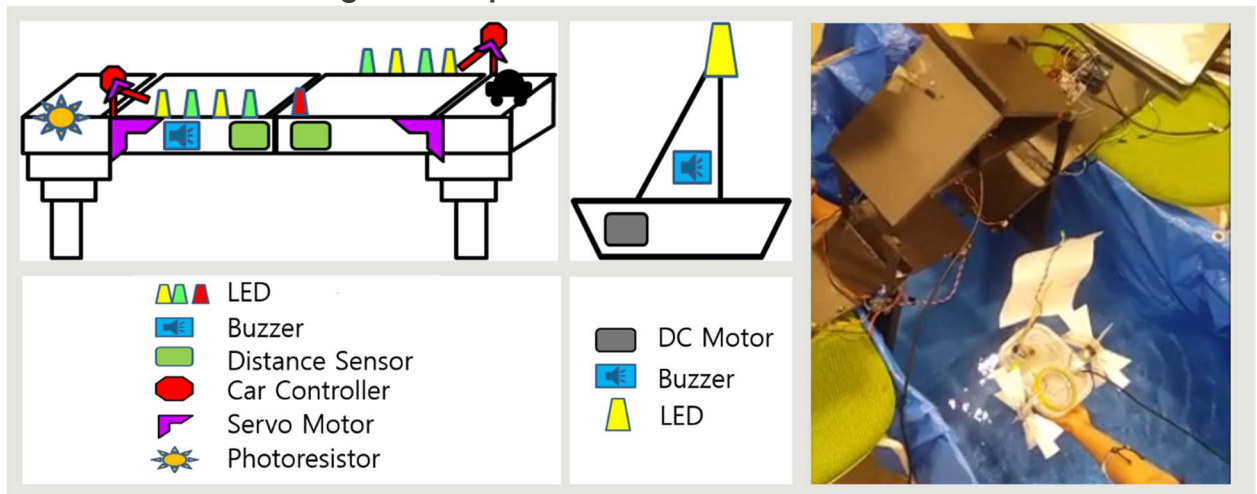
Arduino, C, Bluetooth communication

Role

- Make the ship go forward, stop, shift leftwards and shift rightwards

► **Components** : Uno board, Bluetooth, Infrared distance sensor, Servo motor, DC motor, LED, Photoresistor, Buzzer

► Structure of drawbridge and ship



Contents