Past Youth Projects

supported under 'Project Code R.E.D'

'Project Code R.E.D' is an initiative by

ONESERVICE
MUNICIPAL SERVICES OFFICE

List of contents

Living with Pets Paw-perly

Supported by AVS

The team conducted surveys to understand the issue of encouraging dog owners to clean up after their pets and reduce dis-amenities caused to residents.

a. They designed and produced 2 games to promote good pet ownership habits and provided a set of tools to help pet owners clean up after their dogs. To address the survey findings of dog owners forgetting to bring newspapers bag and personal hygiene concerns, they provided a travel pouch with poop bags and sanitiser to encourage the owners to pick up after their dogs.

b. Based on students' post-survey with the participants who completed the games, majority (75.7%) of respondents believed the items given could help them to pick up after their dogs. The students noted that more could be done to educate residents on the responsibility of picking up after their pets. Most respondents believed that such outreach efforts could help to increase responsible pet ownership behaviours.

Cards designed by the team.

Residents playing game designed by the team.

Drink. Rinse. Recycle.

Supported by NEA

Many of the blue recycling bins in the housing estates have been misused by residents, resulting in recyclables being contaminated by food or liquids and causing dis-amenities such as smell and pests.

A team of NUS students looked at motivating residents to adopt good habits of recycling right. The team developed a device that encouraged people to rinse their beverage bottle/drinks can before recycling.

The bottle rinser prototype (leftmost), with its accompanying instructions, was piloted at Jurong Green Community Club, where 73% of respondents provided feedback that it was easy to use. The team measuring the amount of recyclables received (rightmost).

Minimising bird nuisance at hawker centres

Supported by NEA, NParks, Marine Parade TC, Tanjong Pagar TC

After site observations and meeting with the agencies, Town Councils and hawker representatives, the team created 3 prototypes to address the complex issue of bird nuisance at hawker centres:

a. Optical illusion to deter birds from table-tops (consisting of both dynamic and static illusions).

b. Gamified tray return to encourage tray return. Patrons used their trays as "polls" in response to questions.

c. Sweeper attachment to existing table cleaner's trolley to sweep up food dropped onto the floor.

Mynah flying away after landing on dynamic illusion table top.

(Left) Static optical Illusion. (Right) Gamified Tray Return.

Let's Talk Less Noise

Supported by East Coast TC

With home-based learning and working from home arrangement, we might be more affected by noise nuisance. To address this, a team of students from SUTD developed a prototype called the Conversation Proxy, an interactive exhibit aimed at sparking communal spirit through conversation and reflection regarding neighbourly noise among residents living in the estate.

Through a survey conducted in Simei in July 2021, 47% of respondents highlighted renovation works as their most affected noise concern. A majority of respondents also indicated their preferred quiet hours to be between 10pm to 6am.

The group with their prototype outside Simei MRT in 2021 where they piloted with residents in the vicinity.

Safe Paths for All

Supported by LTA

More Singaporeans are opting for healthier and greener modes of transport such as cycling and use of personal mobility devices to commute. However, the occurrences of inter-user accidents at shared paths, especially at high traffic areas, has been an area of concern.

A team of students from the Singapore University of Technology and Design (SUTD) took on the challenge on encouraging considerate usage of shared paths. The team developed a series of interventions such as redesigned icons to serve as visual aids and constant reminders to encourage path users to stay on the segregated lanes. Educational materials such as poster complemented the physical interventions.

This series of redesigned path icons depicted progression of one's life cycle. The design showed five stages of life - infant, child, youth, adult and senior, as shown in the photo. Each icon was placed 25 meters apart on the pedestrian side.

These 'life-cycle' icons were used to create a narrative and appeal to path users' empathy.

Bin It Right

Supported by NEA

Bin It Right redesigns the recycling campaign and blue bin, to encourage residents to be more conscious of their recycling habits. The team of final year students from Singapore University of Technology and Design (SUTD) redesigned the blue recycling bins to add elements of contaminant indicator and bin lid opening mechanism to help foster proper recycling habits.

The accompanying spatial design and info-graphics helped shed light on the importance of proper recycling.
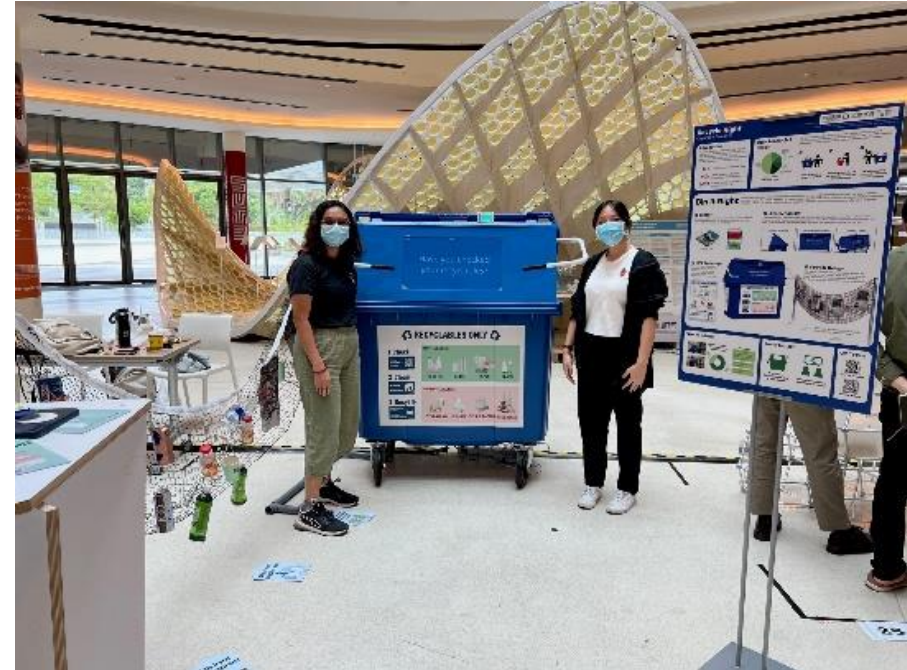

The team with their prototype of redesigned bin and spatial design installation.

Pigeon Project

Supported by NParks, Nee Soon TC

The team from Singapore Management University analysed the factors contributing to pigeon feeding using data from AVS and findings from their survey. The team concluded that it was necessary to raise awareness on the ease of using One Service app to report pigeon feeders to achieve 2 aims:

a. Provide quality feedback to help AVS analyse and catch offenders.

b. Deter offenders by raising awareness about the ease to report such offences by using One Service app.

• The team designed a poster which showed an image of using smartphone to snap photo of pigeon-feeding activity and encouraged residents to download and use the OneService app to report pigeon feeders.
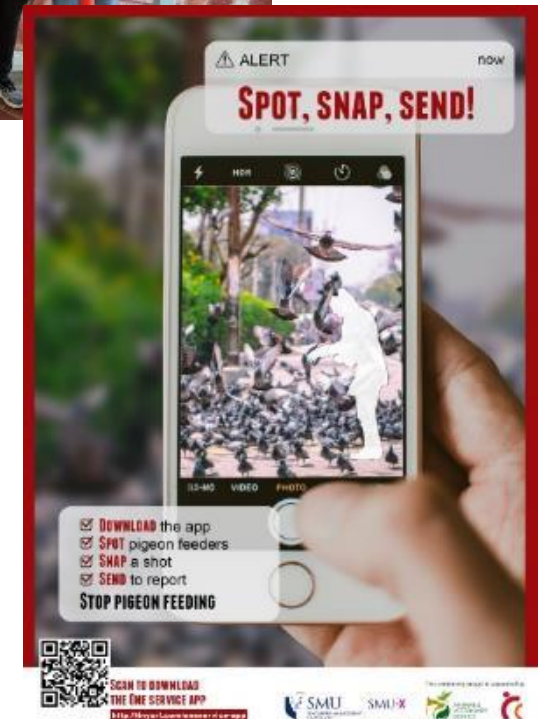
Poster designed by the team.

Singapore: Imagining the Next 50 Years

MSO supported Singapore Management University's final year students to conduct multi-disciplinary fieldwork-based research on complex municipal issues such as joss paper burning, cluttered corridors, smoking in homes and noise from neighbours.

In this SMU-X Singapore Studies module titled "Singapore: Imagining the Next 50 Years", students took on the role of a consultant to provide fresh insights on how citizens and policymakers can better work with each other to co-create a better living environment in Singapore. As part of their research process, the project teams carried out interviews with residents to find out how this could be achieved. Some of the suggestions put forth by the teams were:

a. Noise from Neighbours: Introduce a practical handbook ('Neighbourly Handbook') that contained guide and self-help measures for residents to address issues with neighbours such as noise

b. Joss Paper Burning: Encourage wider adoption of eco-friendly practices for joss paper burning, including exploring 'E-joss paper burning' option

c. Cluttered Corridor: More education to raise awareness on regulation relating to the use of common spaces such as corridors, introduce ambassadors to roam and assess clutter level in corridors

d. Smoking in Homes: Set up designated smoking areas in common areas within estate, increase number of support groups for smokers to quit the habit

Safe Paths for All

Supported by LTA

Ngee Ann Polytechnic's School of Engineering students designed and prototyped an alert system to prevent collisions and enhance the safety of all path users.

The system leveraged artificial intelligence and machine learning to detect and provide alert signals to approaching users at blind corners. This helped users on shared paths to keep a lookout for one another.


Students tested the alert system (in green and blue in the photo above) to demonstrate its effectiveness in detecting pedestrians on both sides of the path and sending an alert to prevent collisions.

Smoking Detector

Supported by NEA

A team of students from Temasek Polytechnic (TP)'s School of Informatics and ITT applied machine learning and trained their programme application to detect the act of smoking as an approach to curb incidents of residents smoking in prohibited areas and littering cigarettes butts in the neighbourhood.

If the sensor detected any sign of a person smoking, the programme would send an alert to an installed display monitor that would show reminders to encourage smokers to dispose cigarette butts properly. Additionally, the alert would remind smokers to smoke only at non-prohibited areas and that smoking at prohibited areas was not allowed. Upon detection, images and videos could be captured and sent to relevant authorities for follow-up actions.
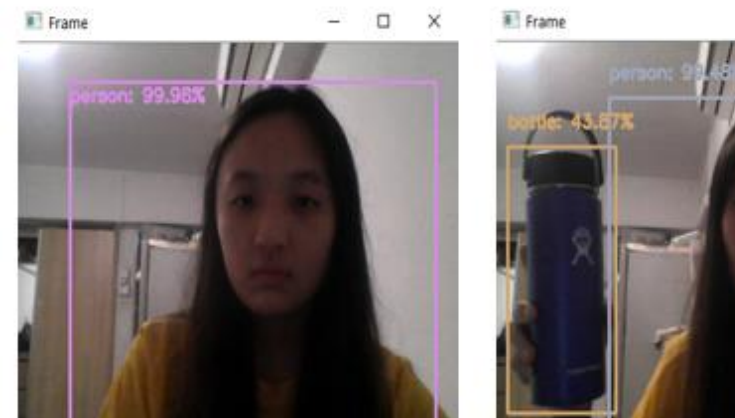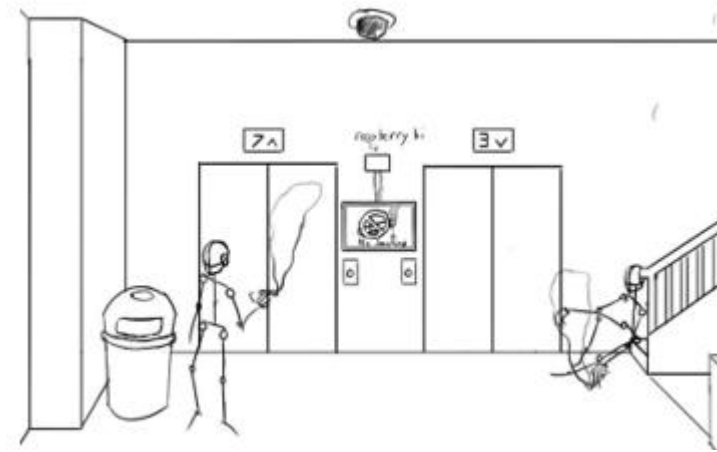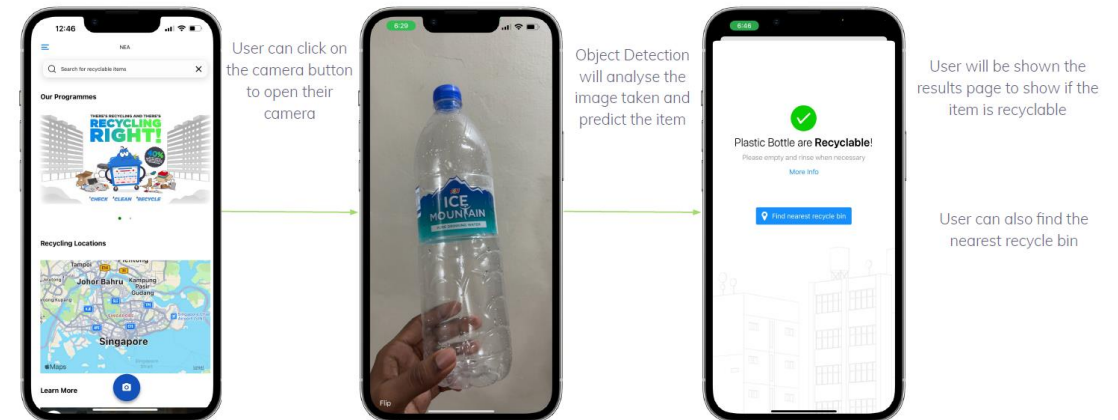
Recycle Sorter

Supported by NEA

Applying machine learning, a team of students under the Temasek Polytechnic (TP)'s School of Informatics and ITT trained their prototype to detect the types of recyclable and non-recyclable items. Their aim was to educate the public on what items can or cannot be recycled.

The team's machine learning model on desktop was able to detect 4 different objects (i.e. plastic bottles, aluminium cans, cardboards and shirts). When an item was held up to the camera, the programme application was able to identify what the item was with high accuracy (90.2% accuracy).
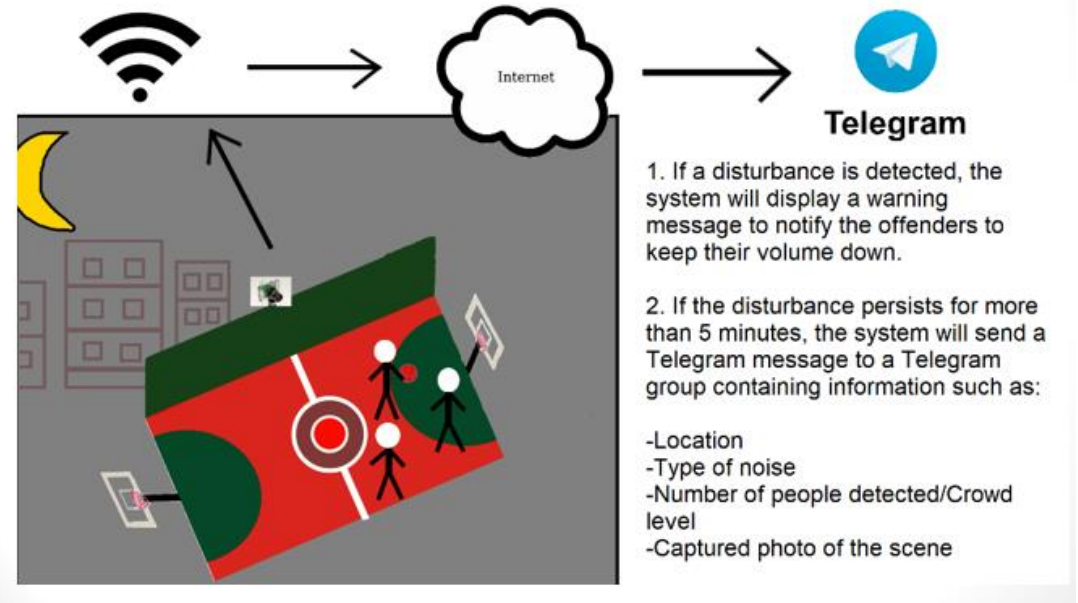

User can click on the camera button to open their camera

Object Detection will analyse the image taken and predict the item

User will be shown the results page to show if the item is recyclable

User can also find the nearest recycle bin

Congregation Detector

Supported by SKM

The aim of the project by Temasek Polytechnic (TP)'s School of Informatics and ITT was to alleviate the problem of noise pollution caused by congregation of people playing basketball during quiet hours.

The team's developed an application that could detect loud sounds (more than 65 decibels (DB) being produced during the quiet hours (10.30pm to 7am). After detection, the application would perform audio classification. If the programme detected any of the following noise types (basketball, football, badminton and loud talking), its camera module would perform object detection to ascertain the following: i) no. of people present (i.e. if there was a congregation); and ii) to reaffirm if there was a basketball.

Internet

Telegram

1. If a disturbance is detected, the system will display a warning message to notify the offenders to keep their volume down.

2. If the disturbance persists for more than 5 minutes, the system will send a Telegram message to a Telegram group containing information such as:

-Location
-Type of noise
-Number of people detected/Crowd level
-Captured photo of the scene

After the application confirmed that there was indeed a disturbance being caused by a congregation of people (more than 5 persons), the application would display a warning message on a monitor to remind noise-makers to keep their volume down. If the disturbance persisted for a period of time, the application could send a message containing the information about the disturbance for any appropriate personnel to take action.