

Engineering Design and Communication

group — 05 Presentation

2021

Problem-01

Fake personal details and impractical QR codes

Problem explanation:

sharing the same pen when recording personal data in a book increases the risk of corona infection .(**According to W.H.O**)

Scanning QR code is not a suitable method for every person because everyone doesn't use a smartphone



Available solutions

- QR code for entering supermarkets and hospitals
- Writing Record books when entering supermarkets and hospitals

Solution we propose:

Using ID for getting personal details

Why we need new solutions

- Lacking of authenticity of data
- Not a suitable system for every person
- Data can be destroyed
- Risk of infection
- Longer waiting time

Problem -02

Inability to avoid accidents

—— Problem explanation:

According to a study (***by manduchi and Kurniawan***) about 300 blind people have died each year from accidents every year even though they use blind stick to avoid accidents which is due its inability to warn others at night.



Available solutions

- Walking stick
- Specially designed roads for blind people

Solution we propose:
Using a smart walking stick

Why we need new solutions

- Limited and fixed route to follow
—— daily routine
- Risk to his life due to accidents
- No proper way to detect obstacle few meters away
- No proper way identify when its dark

Problem -03

Poor garbage management

Problem explanation:

In hospitals with improper garbage management (fully opened and manually operated dustbins) there is a risk of infection for the patients and hospital staff with the current corona virus. (According to W.H.O risk of infection from touching surfaces in a public environment)



Available solutions

- Swing dustbins
- Dustbin with a lid (which is manually operated)
- _____ dustbins operated with the help of the leg

Solution we propose:
Making a dustbin with auto opening and closing

Why we need a new solutions

- Risk of infection from new viruses ex corona..
- Bad smells in hospitals due to improperly disposed waste
- Cleanliness of the wards are affected
- Difficulty for some patients to access dustbins

Problem-04

Time wasted in the elevators

Problem explanation:

People leave after pressing the button of an elevator. This makes people inside the elevator loose time when the elevator stops.

Available solutions

- ☐ Having multiple elevators

Why we need a solution

- ☐ Waste of electricity over a period of time
- ☐ Longer waiting around time
- ☐ Inconvenience for passenger

Problem-05

Students losing attention during lectures

Problem explanation:

In an 1 hour lecture 8-10% of time is spent cleaning the white board which leads to students losing their attention, this is a common problem faced by teachers
(according www.researchgate.net)



Available solutions

- ❑ Cleaning the white board with a duster
- ❑ Cleaning with black boards with a sponge

Solution we propose:
Automatically cleaning
white/black board

Why we need new solution

- ❑ Time consuming process to erase
- ❑ Using duster reduce the visual quality of the board
- ❑ Harder to clean every place of the board for some teachers
- ❑ Students losing their attention from studies