TRUE STORY

DISCOVER THE TRUTH BEYOND YOUR IMAGINATION VIA

AUGMENTED REALITY

FOR SELECTED TOPICS IN DEP50063 WIRELESS COMMUNICATION SUBJECT

BASED ON POLYTECHNIC SYLLABUS

TRUE
STORY

AUGMENTED
REALITY

MANUAL GUIDE FOR STUDENTS AND LECTURERS FOR
SELECTED TOPICS IN WIRELESS COMMUNICATION
ENGINEERING SUBJECT

Author:
Karthega a/p Shanmugam
Negeri Sembilan, Malaysia

Contents

01

WHY AR?

WHY AR?

Augmented Reality has many advantages which can benefit us in many ways.

You love the Wireless Communication subject so much BUT are you facing difficulties in imagining or putting information together? Do you have difficulty visualizing certain topics when it comes to wireless communication subject?

you have read about antenna radiation patterns perhaps would have seen it as pictures in books. Have you ever wondered what exactly it looks like in real?

Wondering what exactly is an electromagnetic wave that the whole topic revolves around? what does it look like?

Do you ever feel exhausted looking for resources to understand all the techniques involved in Multiple Access technique...?

If only eyes can see the unseen.

WHY AR?

Worry not, this is where AR can help you solve all the questions above. Augmented Reality notes help readers understand more, as these AR images seem to project out of their mobile devices. Readers can actually "feel" the 3D images in the real world which can be interacted with by zooming in and out, twisting and turning, and having fun learning.

Creating user interaction with the images helps learners to enhance their learning ability to recall and remember better.

Instead of printed images on books with 2D images or concepts explained through the usage of words that are left to readers with clueless understanding and
imagination, with AR, readers can now discover more beyond their imagination by looking at "real" images of a concept involved in Wireless Communication subject.
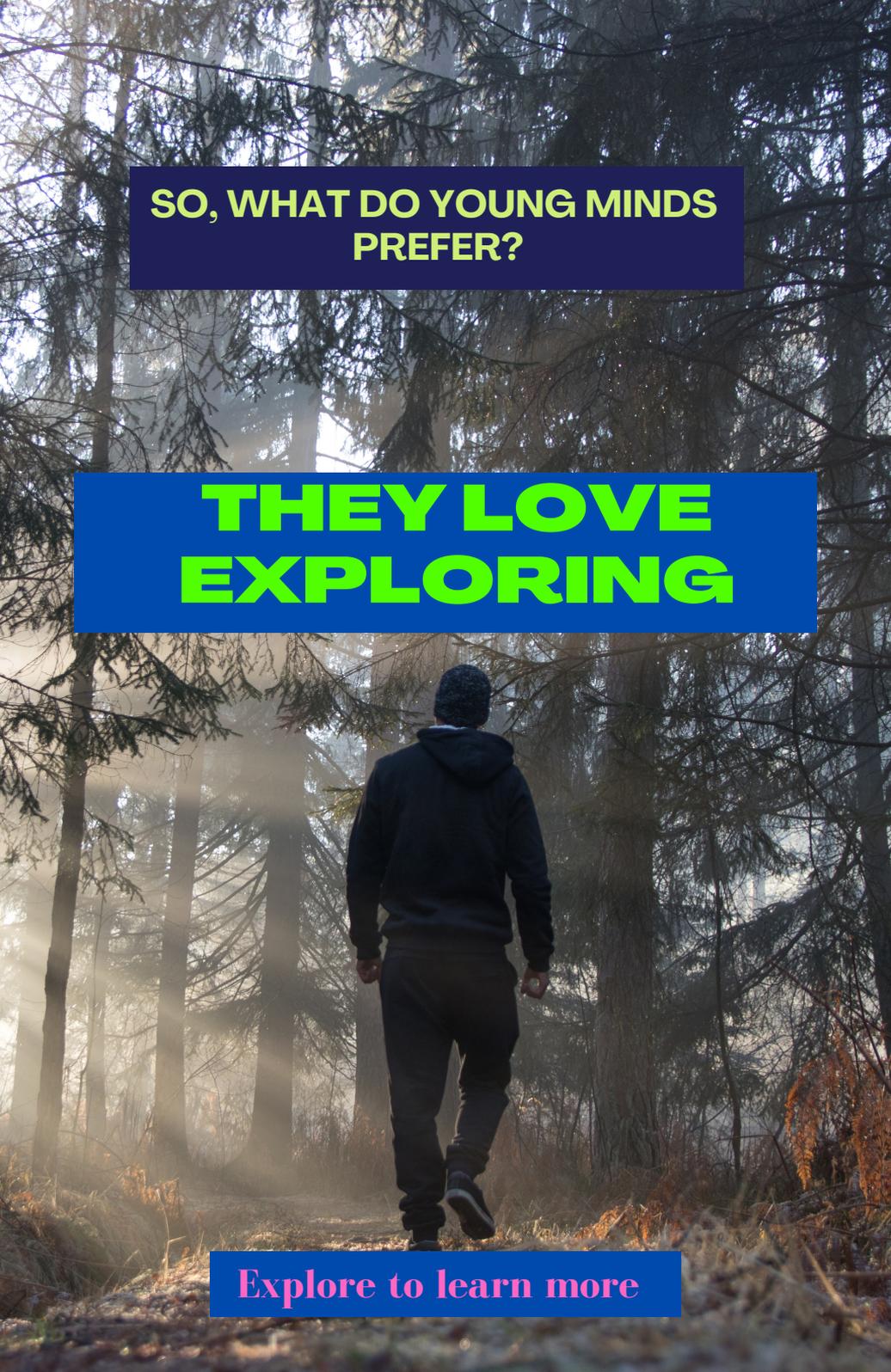
Welcome to True Story

WHY AR?

NOWDAYS, YOUNGSTERS LOVE TO EXPERIENCE MORE THEN JUST SIMPLY READING BOOKS

Boring!!!

THERE IS ALWAYS A CHALLENGE FOR EDUCATORS TO HACK THEIR YOUNG GENERATIONS' MINDS IN MAKING THEM TO LEARN MORE.

SO, WHAT DO YOUNG MINDS PREFER?

THEY LOVE EXPLORING

Explore to learn more

S E G M E N T

02

CONTENTS

DISCOVER BEYOND YOUR IMAGINATION ON THESE TOPICS

- Radio Base Station

- Cellular system

- Electromagnetic Wave

- Directional antenna radiation pattern

- Omnidirectional antenna radiation pattern

- Time Division Multiple Access

- Frequency Division Multiple Access
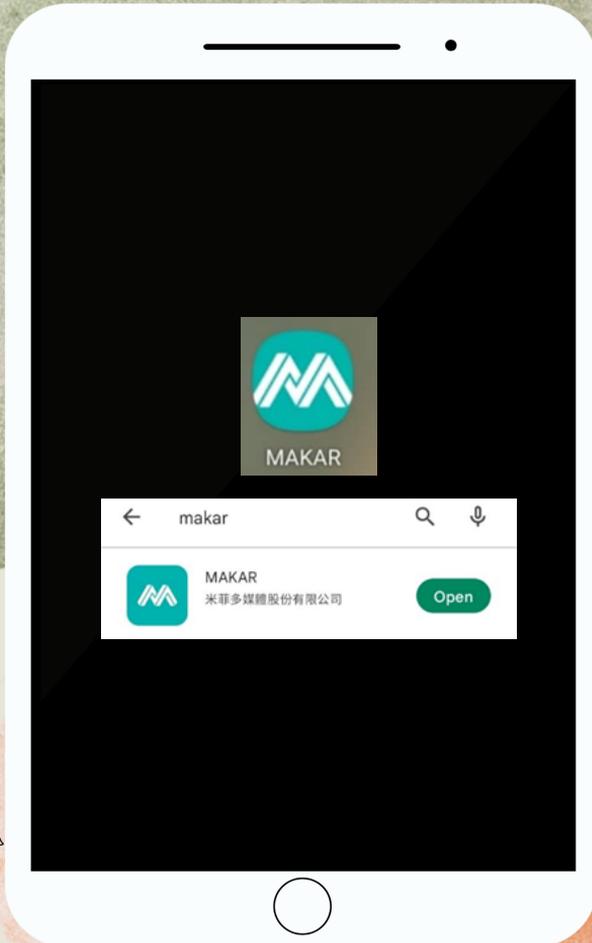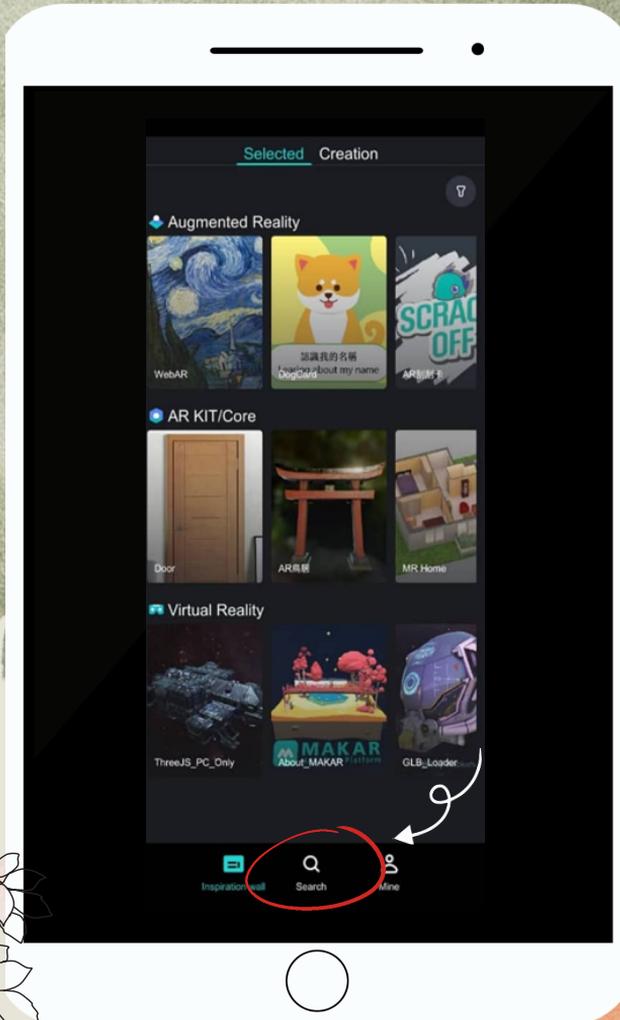
- Code Division Multiple Access

03

LET'S AR
(USER GUIDE)

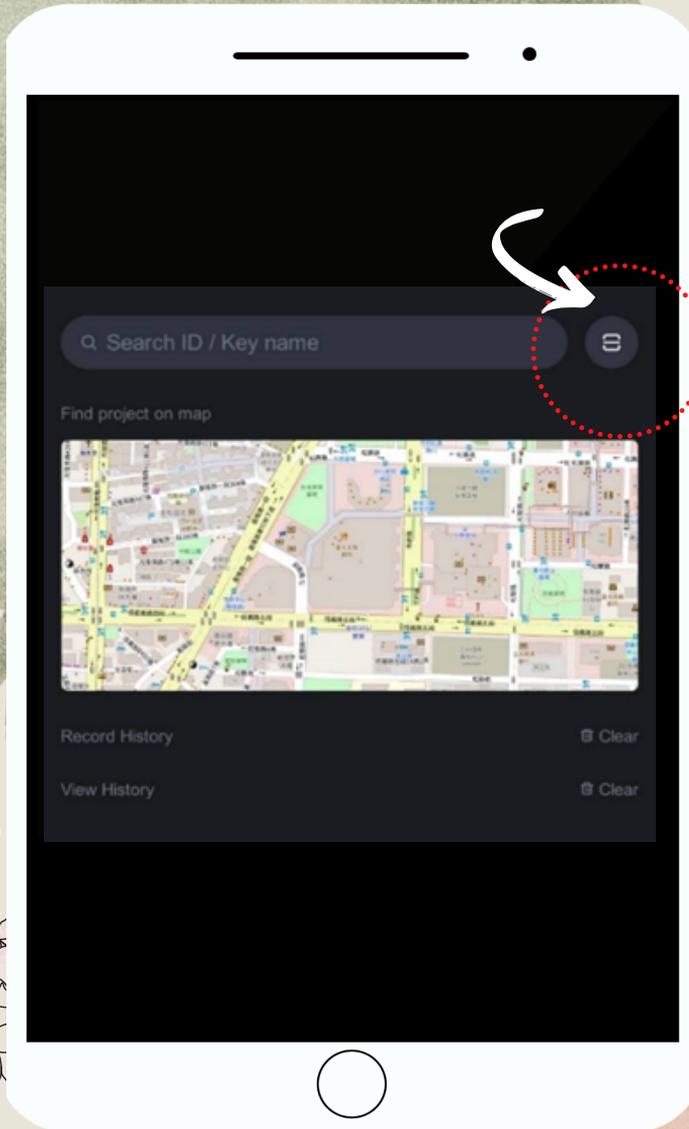BEGIN THE TRUE STORY..
DISCOVER THE ACTUAL

1) Open Play Store in mobile phone and install application called : MAKAR . This is a open source and free software. This installation is only for first time users
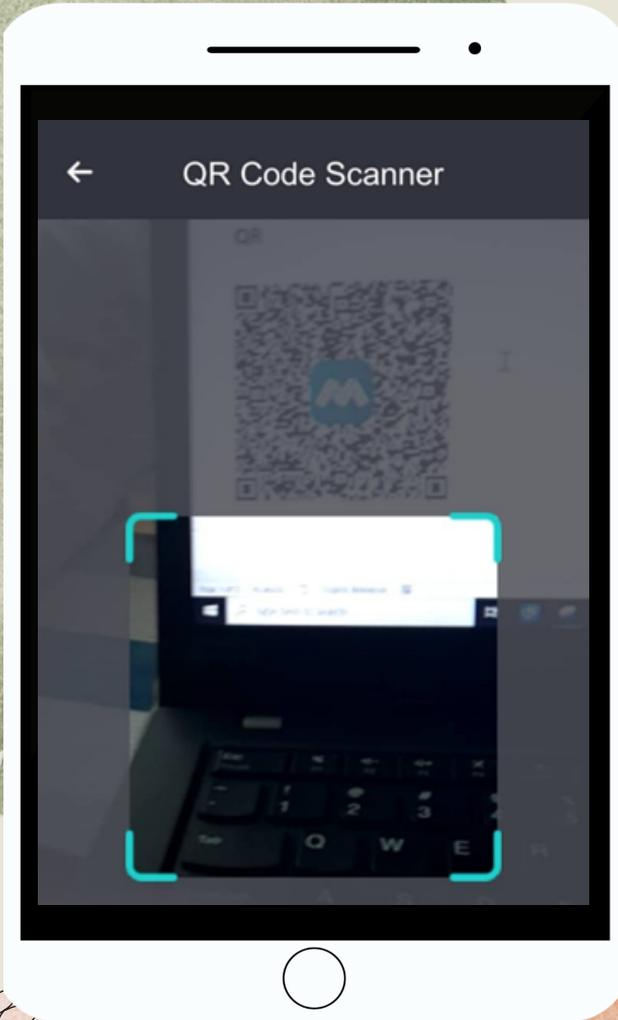
2) The appearance of the app should be as below. Next, touch on *Search* tap at bottom of the screen

3) Click on Search ID   on top right screen as indicated below

Q Search ID / Key name

Find project on map

Record History   🗑 Clear

View History   🗑 Clear
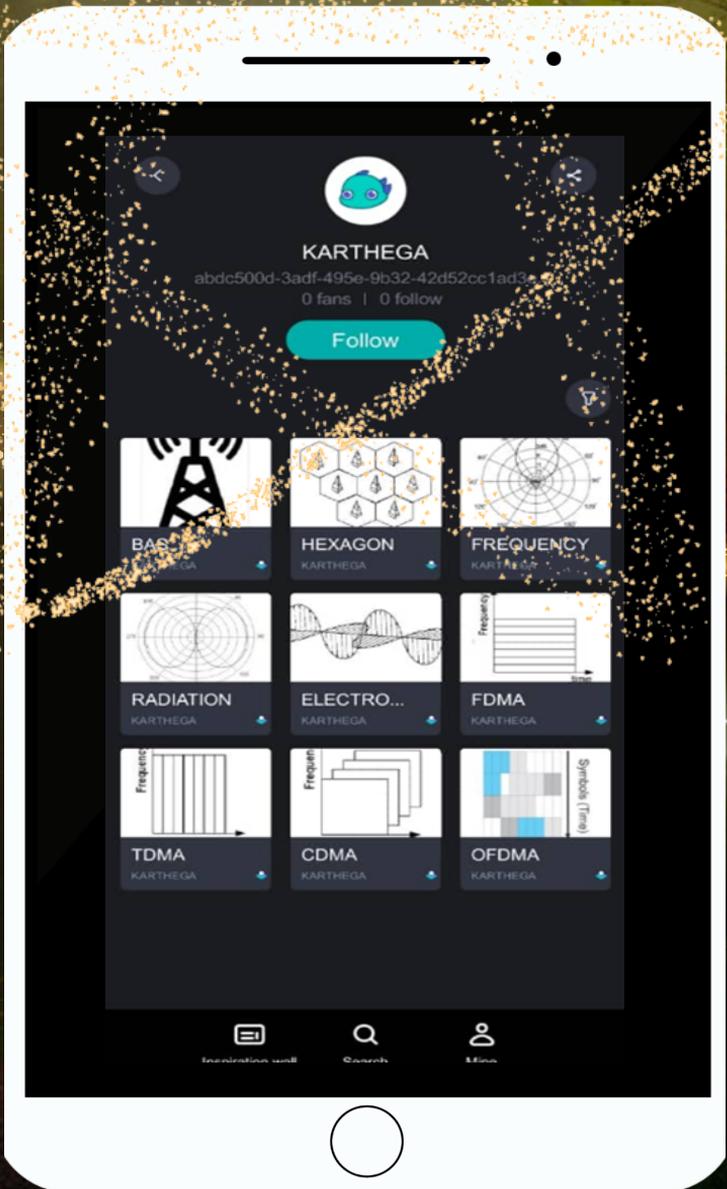
4) Scan on QR Code attached on the next page

4) Scan this QR code

WELCOME

TO KARTHEGA'S AR PAGE

KARTHEGA
abdc500d-3adf-495e-9b32-42d52cc1ad3...
0 fans | 0 follow

Follow

BAS...	HEXAGON	FREQUENCY
KARTHEGA	KARTHEGA	KAR...EGA
RADIATION	ELECTRO...	FDMA
KARTHEGA	KARTHEGA	KARTHEGA
TDMA	CDMA	OFDMA
KARTHEGA	KARTHEGA	KARTHEGA

Inspiration wall   Search   Mine

5) The user may now click on any image to view in AR. For instance, if the user wants to view cellular cell cite, user may choose like one shown below.
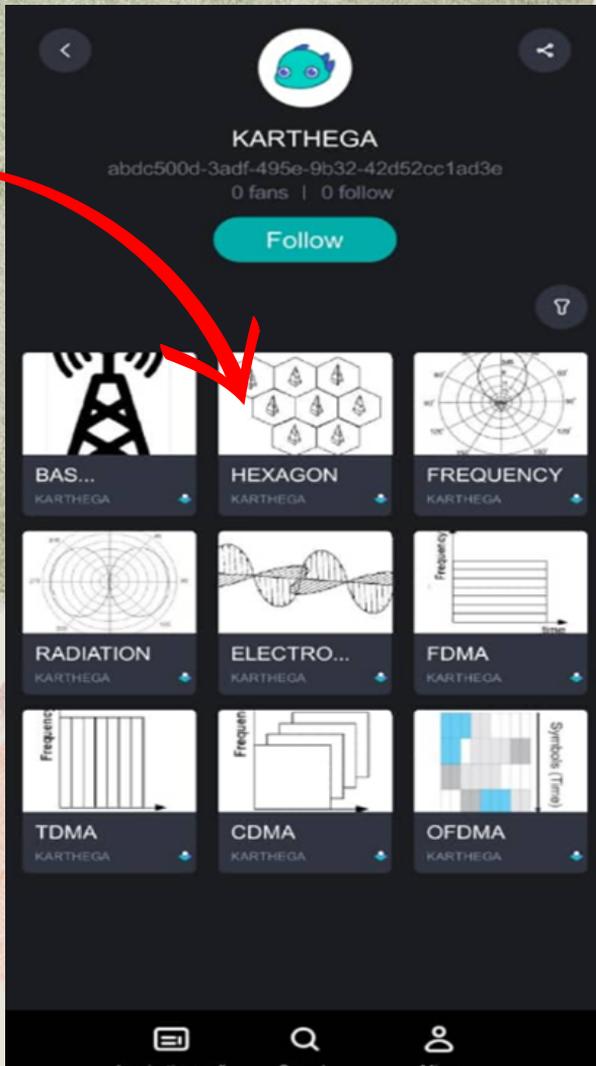
6) Screen will appear as shown below. User just need to choose Experience and...
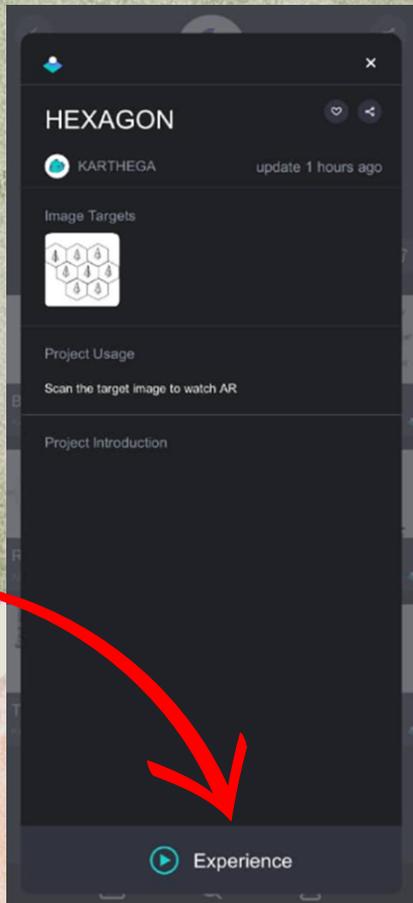
... point mobile phone camera to the picture (known as Marker image) as below. Please take note that user only need to flash this on their mobile phone camera without clicking anything.
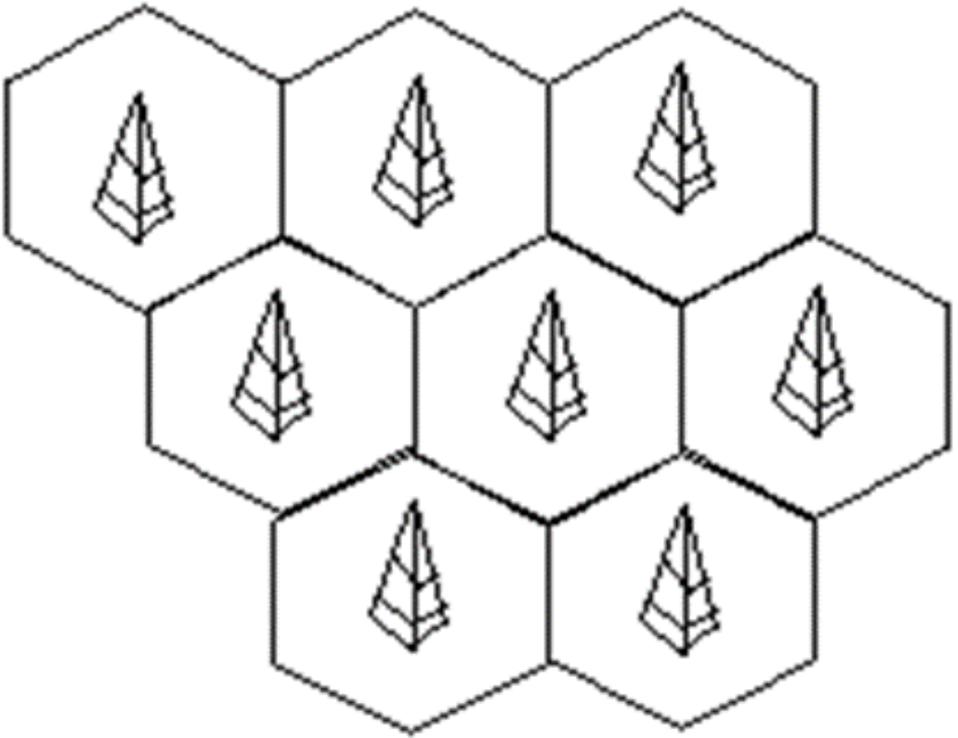
The AR image of cellular cell site is expected to appear as below. The image will virtually fall behind the real world seen and user can interact with it by resizing it, zooming in and out, twist and turn and in any direction.
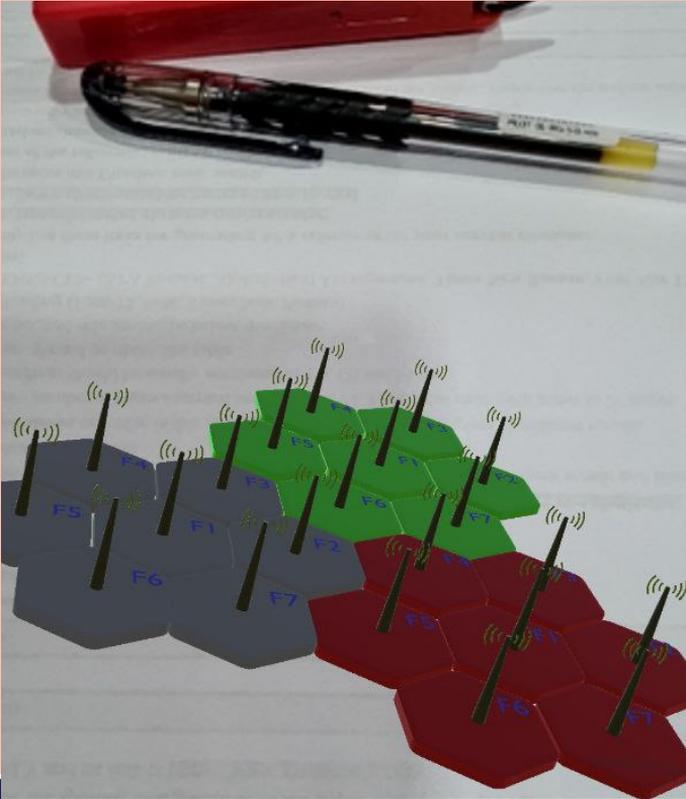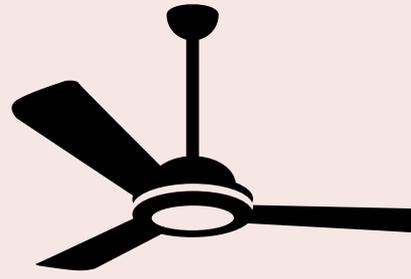
The AR image of cellular cell cite is expected to be appear as below. The image will virtually fall behind the real world seen and user can interact with it by resize it with zooming in and out, twist and turn and any direction.

User just need to do the same for every element that wished to view in AR. For the AR image to appear, user will just need to flash their camera to their associated Maker image. The following is the Marker image for each AR.
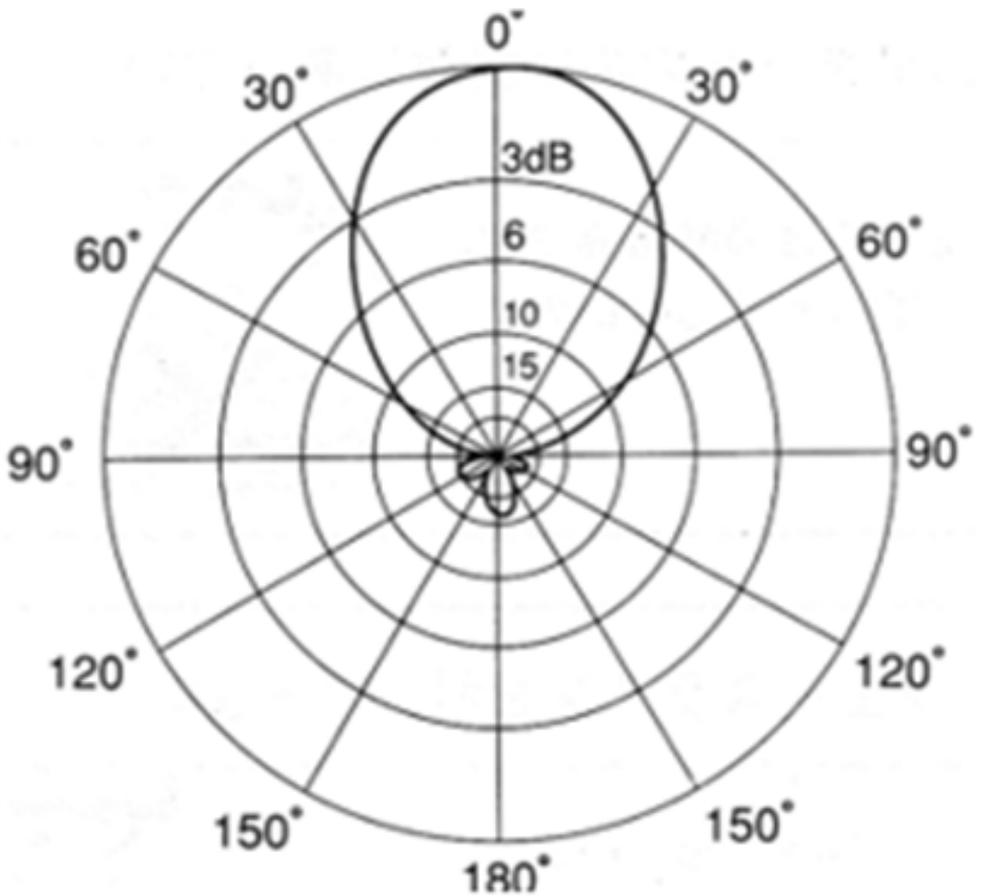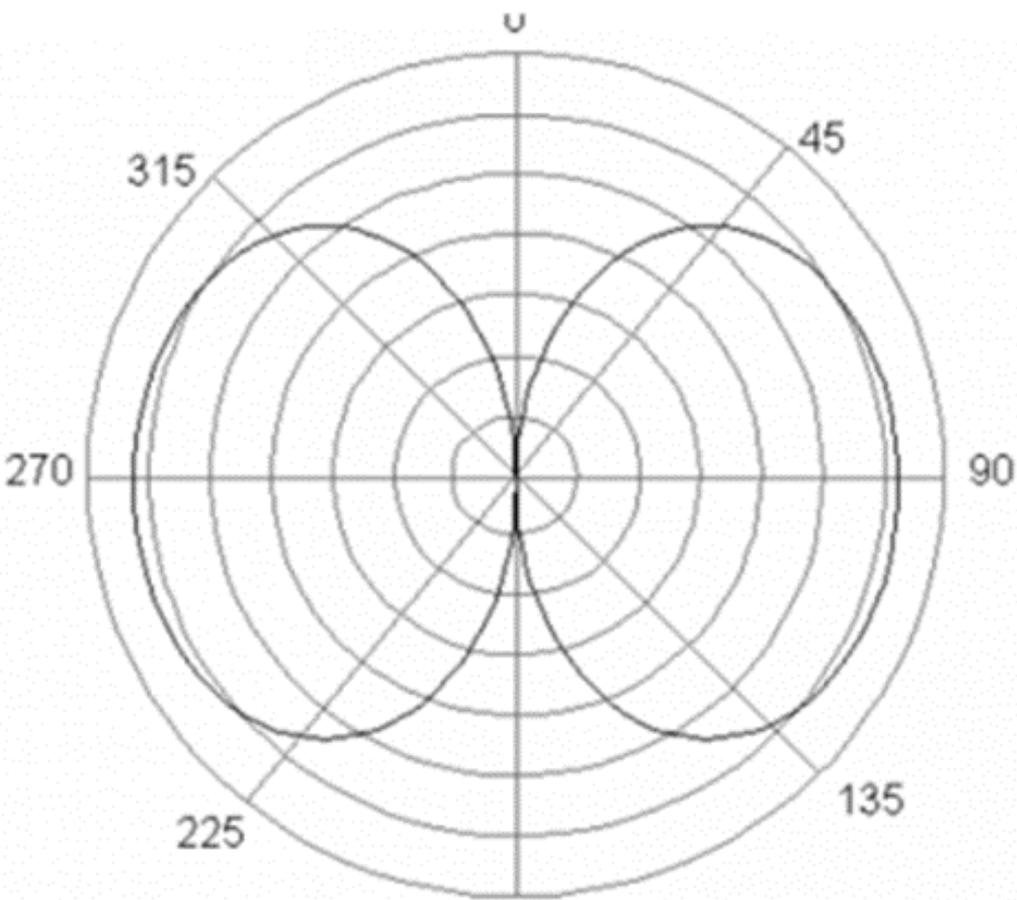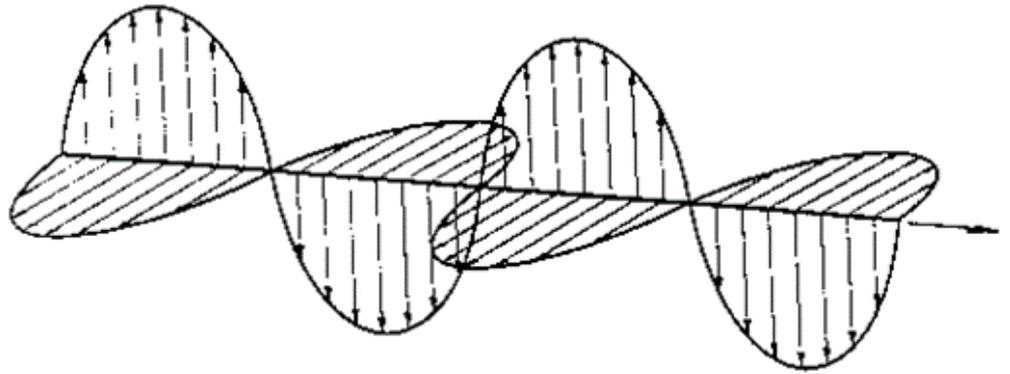
BASE STATION

CELLULAR NETWORK
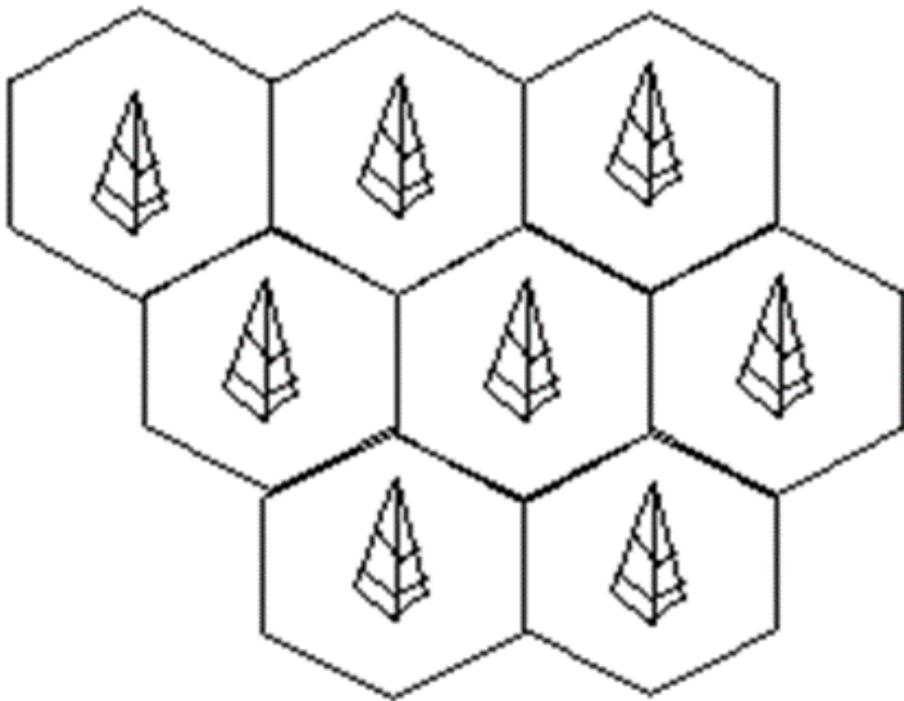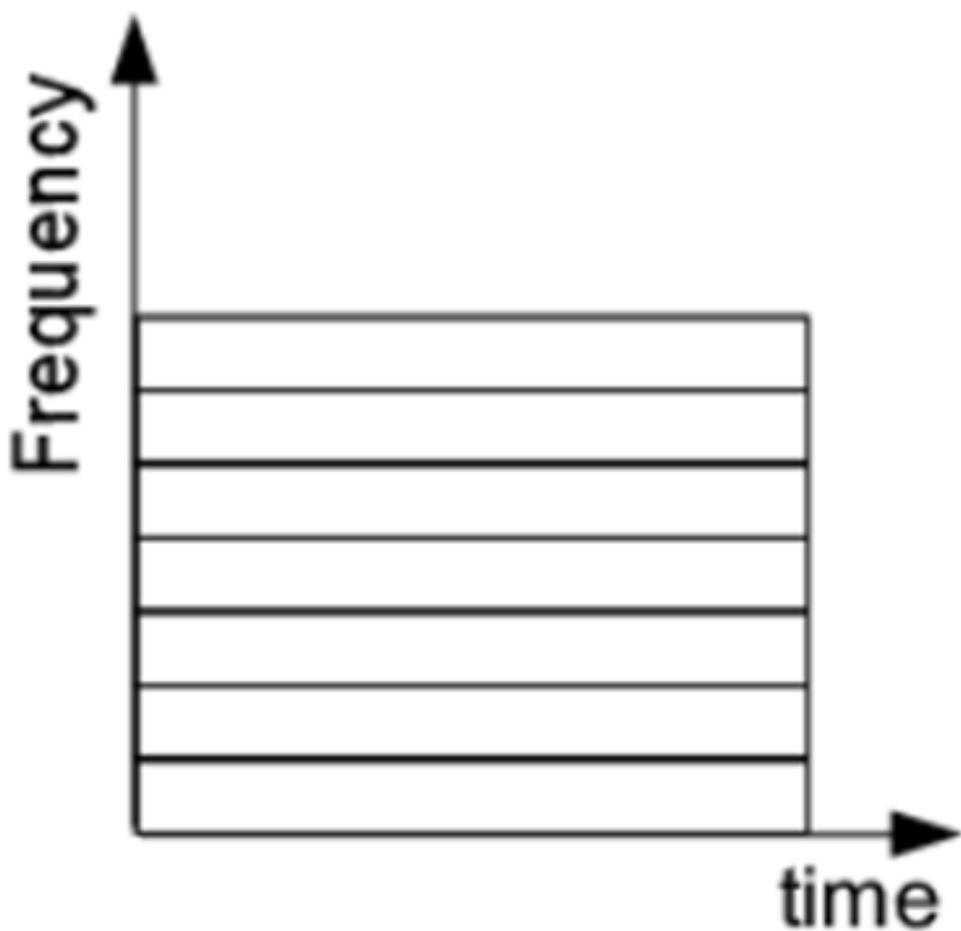
RADIATION PATTERN OF DIRECTIONAL ANTENNA

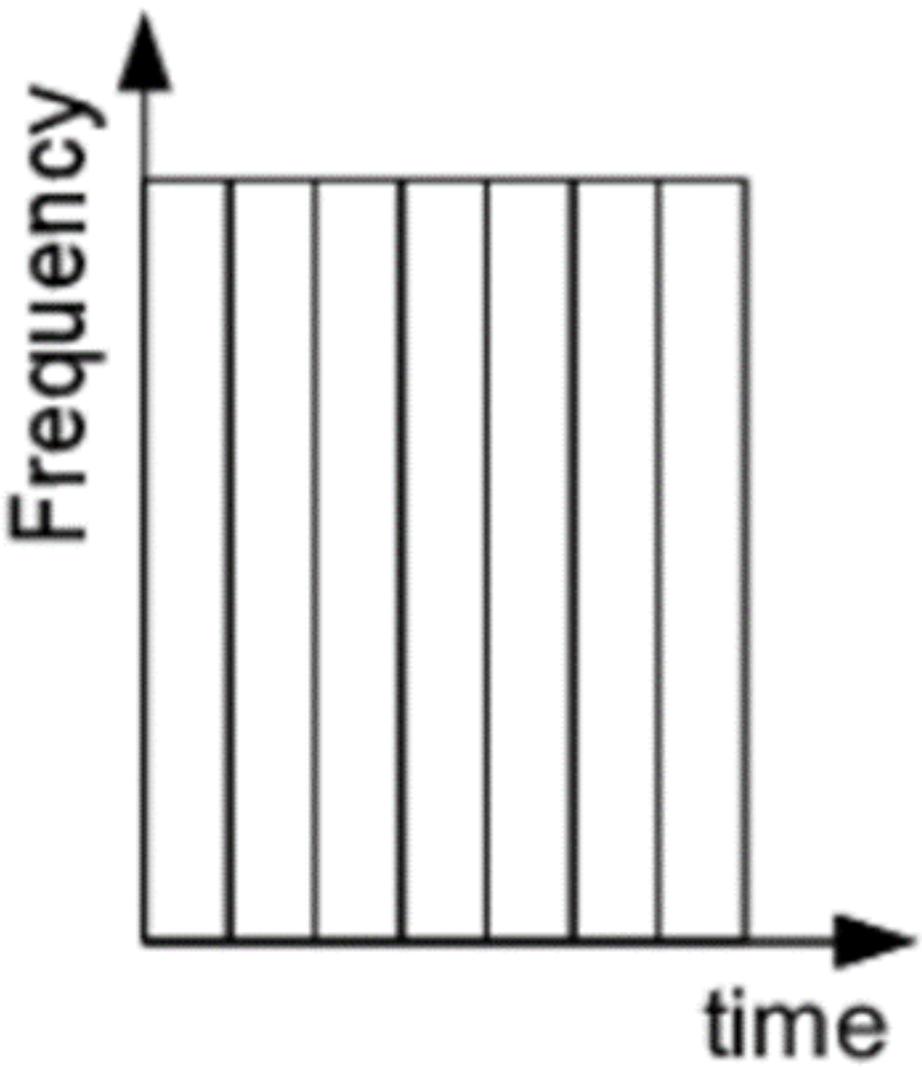# RADIATION PATTERN OF OMNIDIRECTIONAL ANTENNA
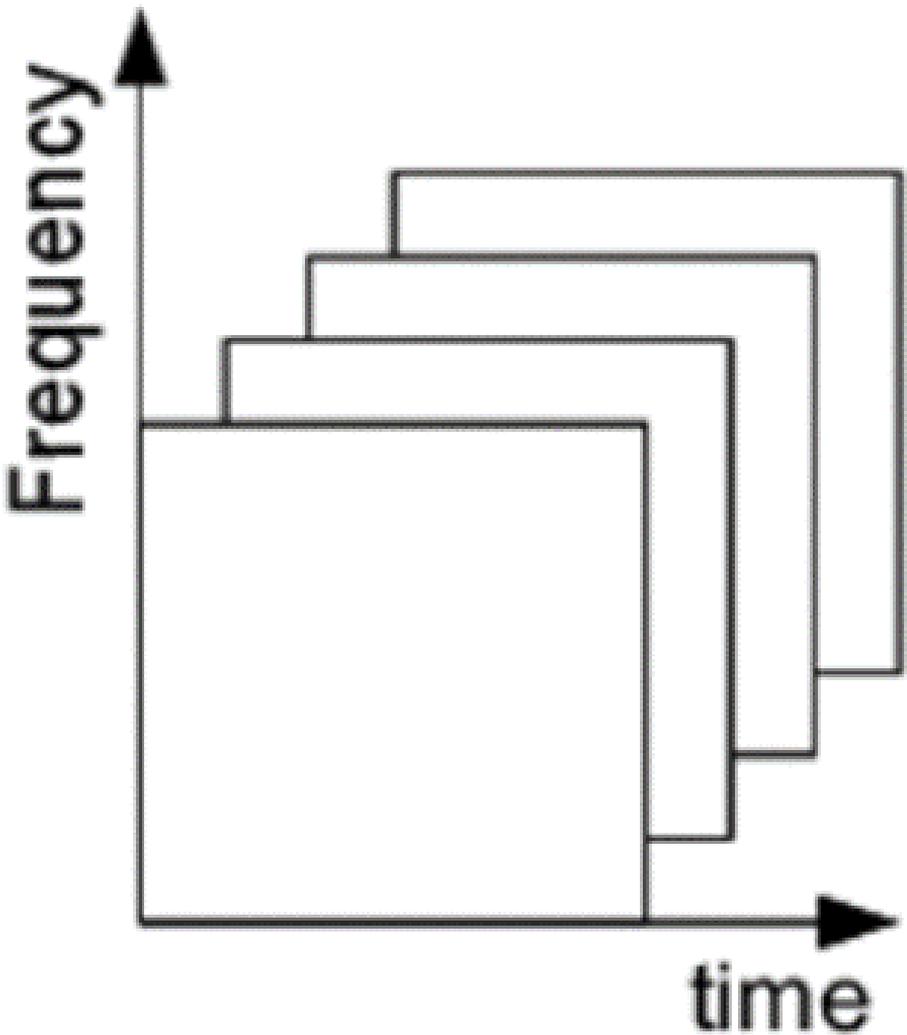
ELECTROMAGNET WAVE

FREQUENCY DIVISION MULTIPLE ACCESS (FDMA)

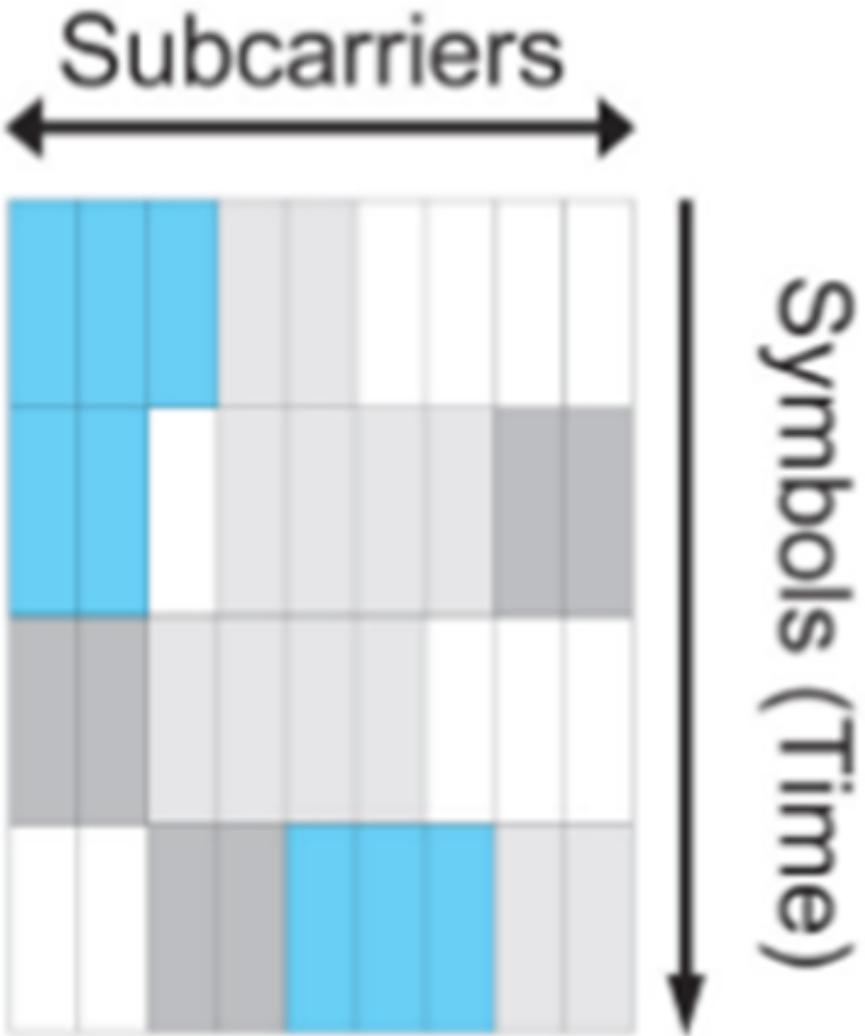# TIME DIVISION MULTIPLE ACCESS (TDMA)

CODE DIVISION MULTIPLE ACCESS (CDMA)
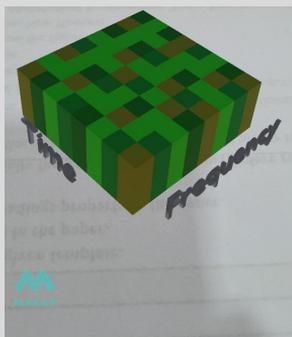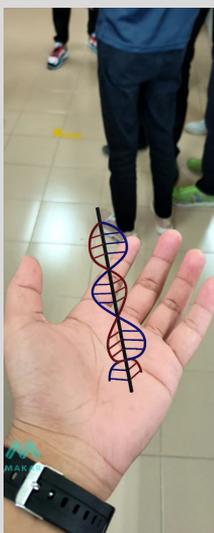
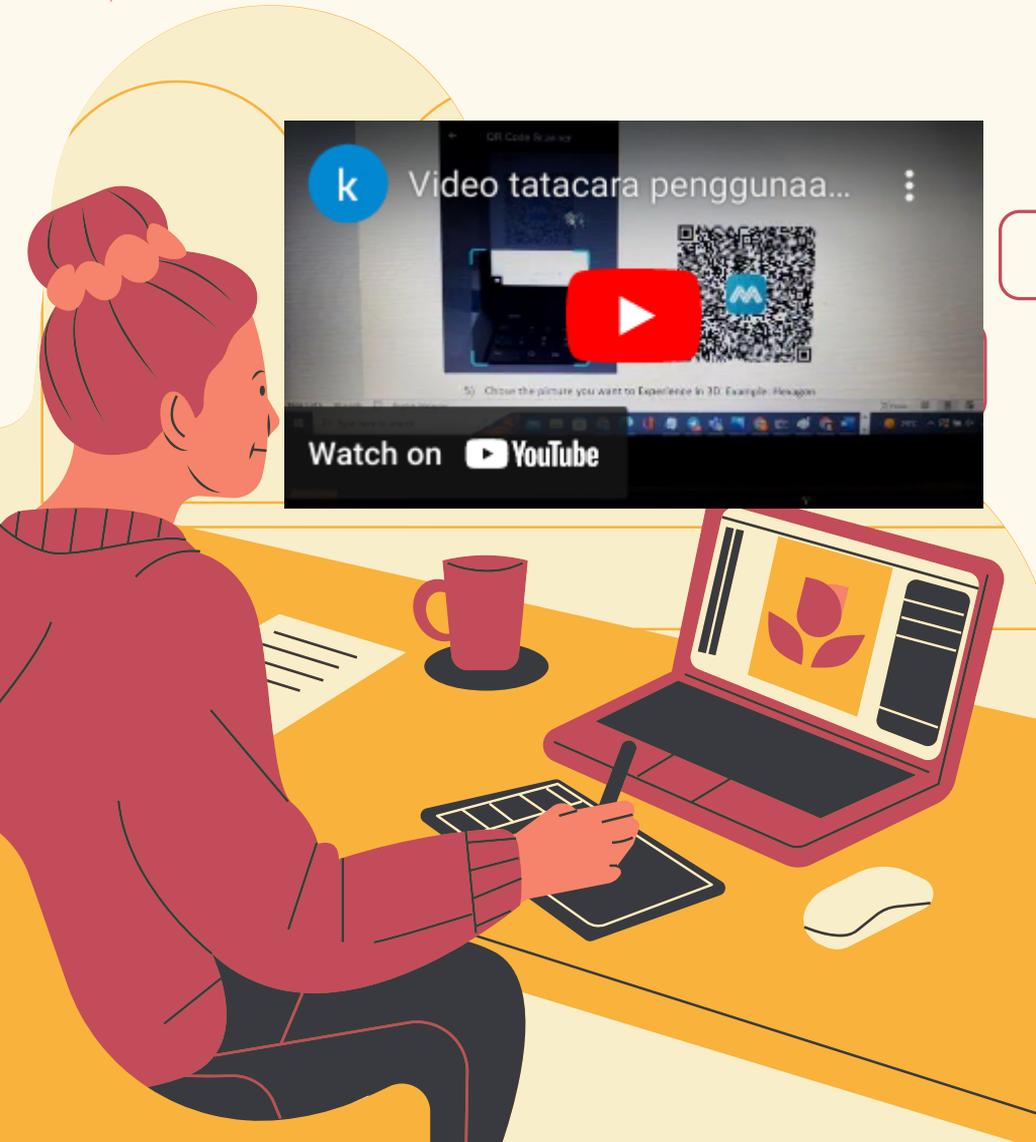# ORTHOGONAL DIVISION MULTIPLE ACCESS (OFDMA)

04

SNAPSHOTS OF A FEW SAMPLES OF AR IMAGES

SEGMENT

05

VIDEO

VIDEO (BM)

For better viewing, choose Full Screen.
Untuk paparan yang lebih baik, pilih Skrin penuh.

Video tatacara penggunaa...

Watch on ▶ YouTube

VIDEO OUTCOME(BM)

For better viewing, choose Full Screen.
Untuk paparan yang lebih baik, pilih Skrin penuh.

k AR images for Wireless Co... ⋮

Watch on ▶ YouTube
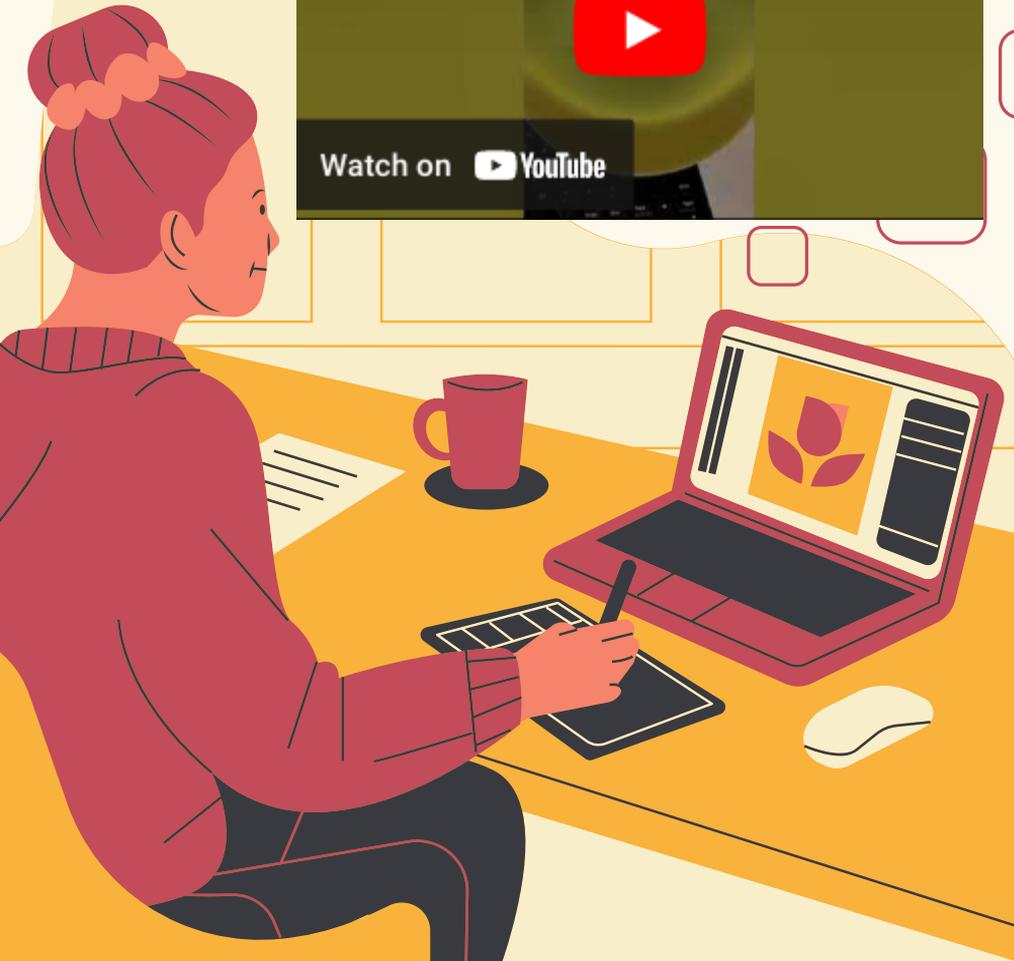
UNTOLD TRUE STORY :
LEARN THE TRUTH VIA
AUGMENTED REALITY

THE END

To polytechnic students,
by
Polytechnic lecturer

-Karthega-

This e-book is designed for polytechnic students pursuing Electric Communication program. This books contains user guide to variety of experience through Augmented Reality on selected topics for Wireless Communication subject.

TRUE STORY AUGMENTED REALITY

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POLITEKNIK PORT DICKSON

(ebook)