

ICT: Emerging Technological Trends and Society

TuK



Btech IT/CT/CCN Year IV term 3

LECTURE 1 pt A INTERESTING COMPUTING APPLICATION AREAS

SUBJECT CODE: ECII/ECSI/ECCI 4204

INTERESTING COMPUTER

APPLICATION

AREAS pt 1A

LECTURE OVERVIEW

- 1. Lecture Aims & Objectives**
- 2. Lecture Outline**
- 3. Recommended chapter from recommended reading list**
- 4. Lecture Topic**
- 5. Q&A**

COMPUTER APPLICATION AREAS

- **The aims of this topic are to:**

- 1) Identify different areas where interesting computer h/w, s/w & network applications are used
- 2) Introduce students to different s/w, h/w & network emerging trends in traditional & non-traditional areas of computer application
- 3) Identify and explain the history, evolution, development, function, characteristics and strengths and of h/w, s/w & network computer applications aforementioned
- 4) Discuss the social and ethical implications on society related to use of the aforementioned applications

COMPUTER APPLICATION AREAS

- **The objectives of this topic are to:**

- 1) Study how traditional h/w, s/w & network computing applications in common areas of society evolved & developed over time leading to disruption and innovation in key areas
- 2) Learn the front end, middleware and backend architecture of the traditional Vs Emerging computing applications
- 3) Learn and re-design h/w, s/w & network models to predict future disruptions to current computer applications in society

PART A:- ALGORITHM COMPETITION FOR HUMAN EYEBALLS

1A) From analog long form video editing to digital short video creation using computers -technologically advanced video editing software (video editing software and computer applications:-history, evolution and development OF video)

PART B:- SMART CLOTHING TECHNOLOGY

2 A) From shoes to computers on your feet-smart shoe technology-technologically advanced footwear (Feet of the human body and computer applications:-history, evolution and development)

2 B) From clothes to wearing computers on clothes -clothing technology-technologically advanced wear :- (the human body and computer applications:-history, evolution and development)-hats and socks and shoes

RECOMMENDED READING LIST

1. Fawad A Khan, Jason M Anderson "**Digital Transformation Using Emerging Technologies:- A CxO's Guide To Transform Your Organization**" Independently Published 2021
- 2, Sarah Pink "**Emerging Technologies/Life at the Edge of the Future**" Routledge 2022
3. Kelly and Zach Weinersmith "**Soonish: Ten Emerging Technologies That'll Improve and/or Ruin Everything**" Penguin Press 2017
4. Schwab,Klaus "**The Fourth Industrial Revolution**", 2018.

COMPUTER APPLICATION AREAS

McKinsey & Company 2016

**Half of today's work activities could be automated as early
as 2035-**

(Disruption WARNING)

- БУДЬТЕ В БЕЗОПАСНОСТИ БРАТЯ

BE

SAFE

BROTHERS

COMPUTER APPLICATION AREAS

Bill Gates

We always Overestimate the change that will occur in the next 2 years and underestimate the change that will occur in the next 10. Don't let yourself be lulled into inaction

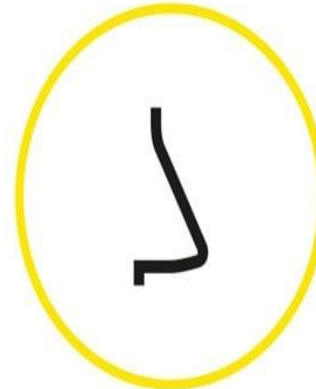
(Disruption WARNING:)

<http://elearning.tukenya.ac.ke>

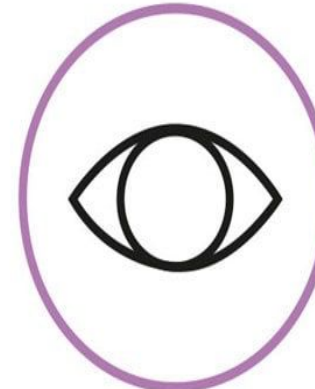
HUMAN BODY AND COMPUTER APPLICATIONS



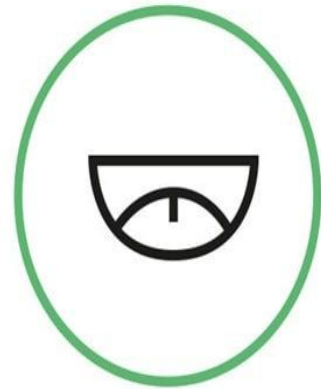
Mind



Smell



Sight



Taste



Touch



Sound

SUMMARY OF LUDDITE Vs NON-LUDDITE

FOCUS ON
BILL JOY AND JOHN MESSERLEY

WILLIAM “BILL” JOY

Wrote the 2000 essay [Why The Future Doesn't Need Us](#), in which he expressed deep concerns over the development of modern EMERGING technologies.

Argued: "Our most powerful 21st-century technologies—robotics, genetic engineering, and nanotech—threaten to make humans an endangered species."

“Developing (aka EMERGING) technologies provide a much greater danger to humanity than any technology before”

WHY THE FUTURE DOESN'T NEED US BY “BILL” JOY

“ 20th-century technologies of destruction (e.g. nuclear bomb etc.) are limited to large governments, complex, expensive & difficult to acquire required raw materials”

21st Century technologies “Are a potential nightmare scenario, in which a mad scientist creates a virus capable of wiping out humanity”

WHY THE FUTURE DOESN'T NEED US BY “BILL” JOY

“increasing computer power will eventually become more intelligent than we are, leading to dystopian scenarios e.g. robot rebellion”

“In Summary – Genetics, nanotechnology, robotics etc. are too dangerous to pursue; we should abandon them”

SUMMARY OF ALL “BILL” JOY Vs JOHN MESSERLY’s 9 ARGUMENTS (LUDDITES vs NON-LUDDITES)

BILL J:- Emerging technologies have problems as tech (NON-LUDDITE-ANTI-TECHNOLOGY ARGUMENT)

JOHN M Response COUNTER (LUDDITE-PRO-TECHNOLOGY ARGUMENT)

SUMMARY OF ALL “BILL” JOY Vs JOHN MESSERLY’S 9 ARGUMENTS (LUDDITES vs NON-LUDDITES)

1. Big fish eat little fish argument “Biological species almost never survive encounters with superior competitors-robots will be superior to us, (NON-LUDDITE ANTI TECHNOLOGY)”

Big fish counter argument:-“ But it isn’t obvious that robots will be superior to us and, even if they will be, they may be less troublesome than our neighbors next door.

(LUDDITE-PRO-TECHNOLOGY)

2. Mad scientist argument “scientists can be mad, leading to construction and dissemination of contagious plagues that kill” (What is the LUDDITE PRO-TECHNOLOGY COUNTER ARGUMENT?)

SUMMARY OF ALL “BILL” JOY Vs JOHN MESSERLY’s 9 ARGUMENTS (LUDDITES vs NON-LUDDITES)

3. Lack of control argument “self-replication amplifies the danger: -a bomb is blown up only once—but one bot can become many, and quickly get out of control.(What is the **LUDDITE PRO-TECHNOLOGY COUNTER ARGUMENT?**)
4. Easy access argument “20th-century technologies require rare “raw materials and highly protected information”, but 21st-century technologies are widely within reach thus knowledge alone enables their use” (What is the **LUDDITE PRO-TECHNOLOGY COUNTER ARGUMENT?**)

SUMMARY OF ALL “BILL” JOY Vs JOHN MESSERLY’s 9 ARGUMENTS (LUDDITES vs NON-LUDDITES)

5. Poor design abilities argument “we overestimate our design abilities, and should proceed with great caution” (What is the **LUDDITE PRO-TECHNOLOGY COUNTER ARGUMENT?**)
6. Immortality argument-scientists dream of building conscious machines to achieve immortality by downloading human consciousness into them (What is the **LUDDITE PRO-TECHNOLOGY COUNTER ARGUMENT?**)

WHY THE FUTURE DOESN'T NEED US BY “BILL” JOY

Summary of all Bill Joy's 9 point arguments

7. Other technologies make things worse argument- “ET's increases ability to perfect bodies, eliminate disease, prevent deformity etc”. (What is the **LUDDITE PRO-TECHNOLOGY COUNTER ARGUMENT?**)
8. It's never been this bad argument- “As a species in the history of earth our voluntary actions have made us a danger to itself.” (What is the **LUDDITE PRO-TECHNOLOGY COUNTER ARGUMENT?**)

EMERGING TREND LIFECYCLE

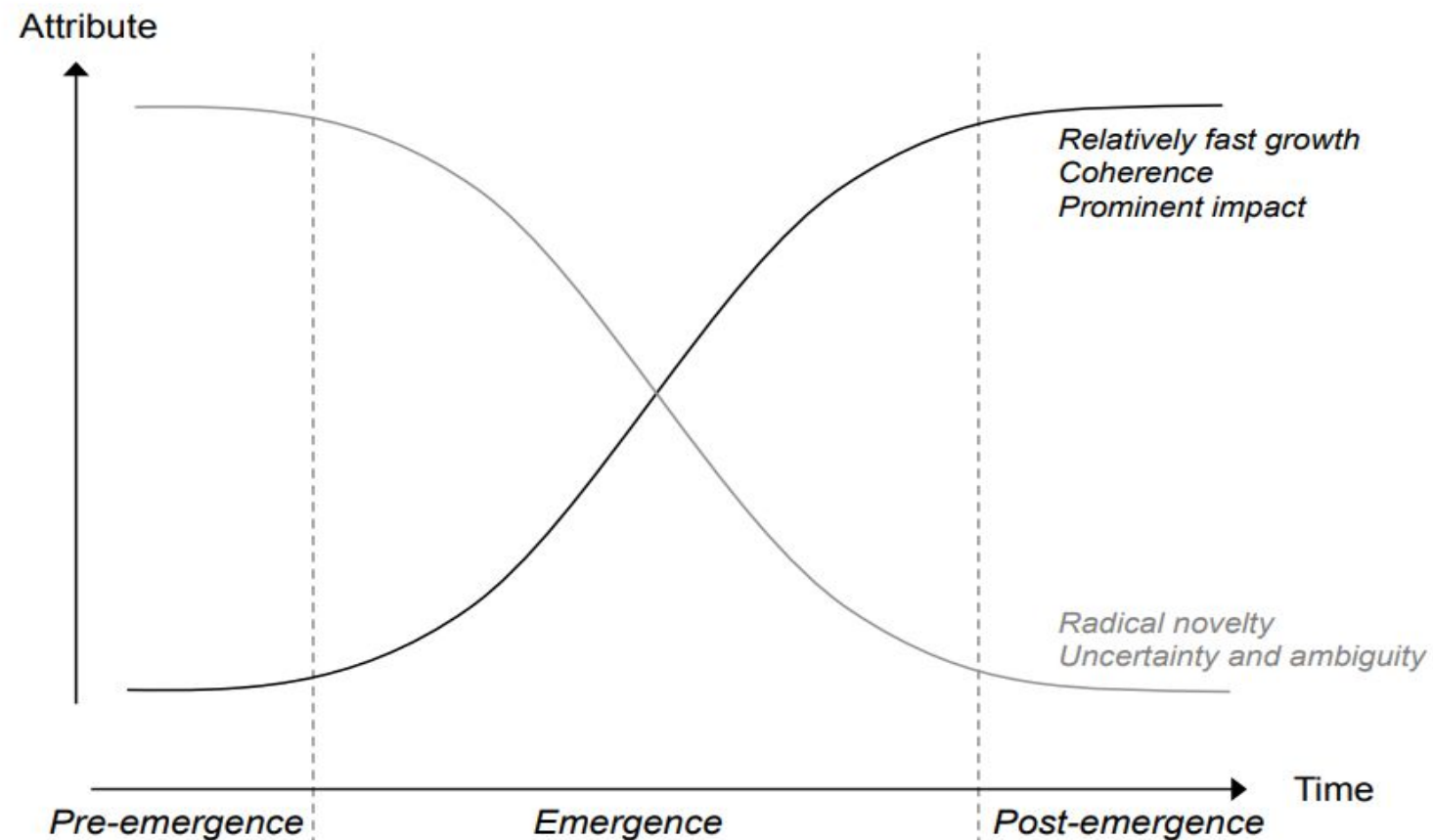


Figure 2: Pre-emergence, emergence, and post-emergence: attributes and 'stylised' trends.
Source: authors' elaboration.

VINE 2012-2016: POSTMORTEM OF AN EXTINCT EMERGING TREND

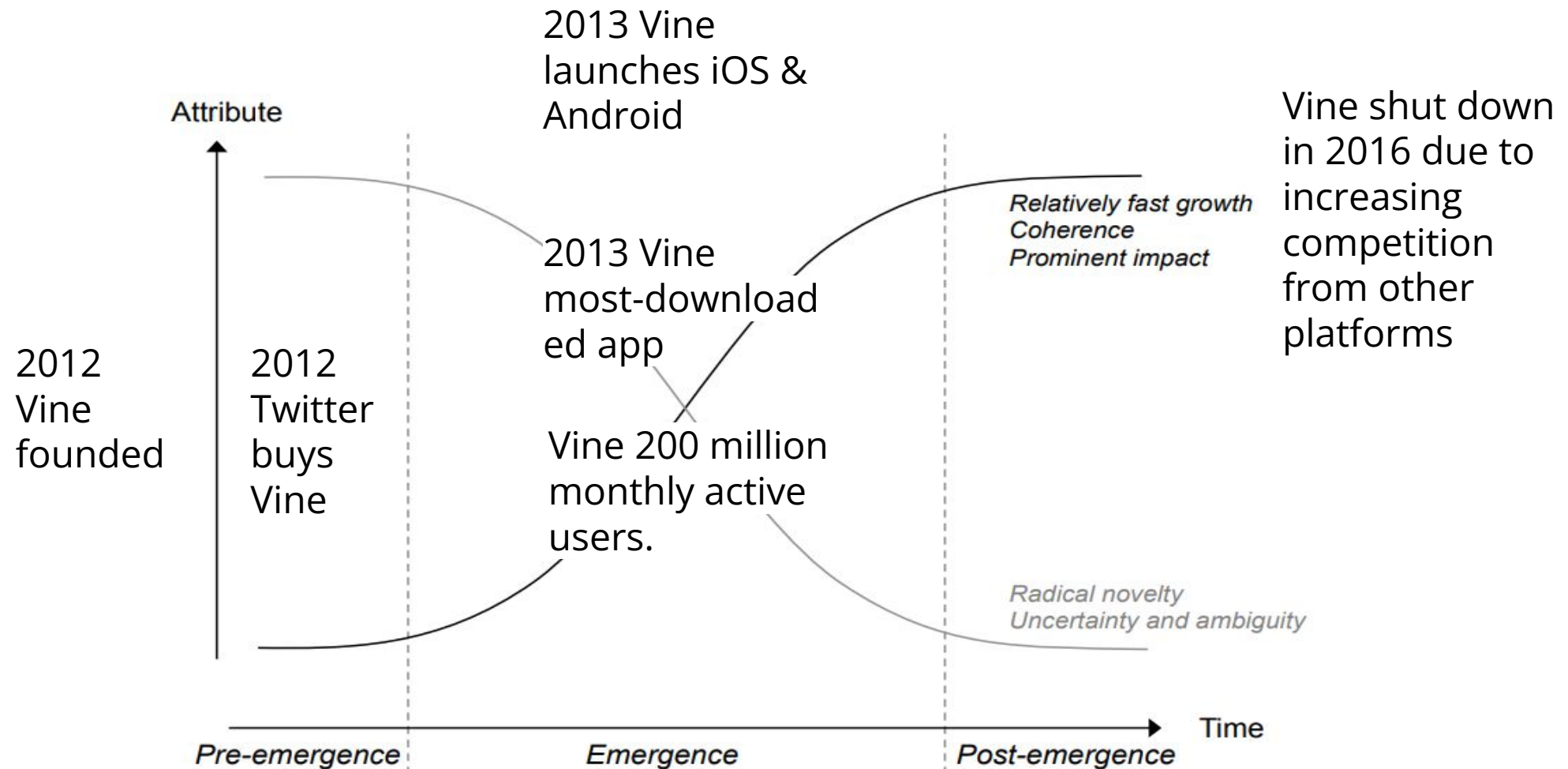
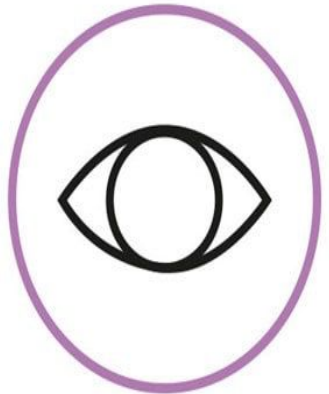


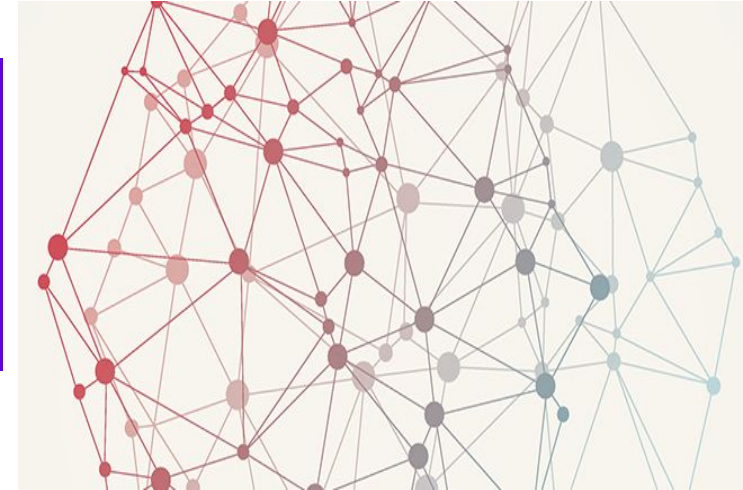
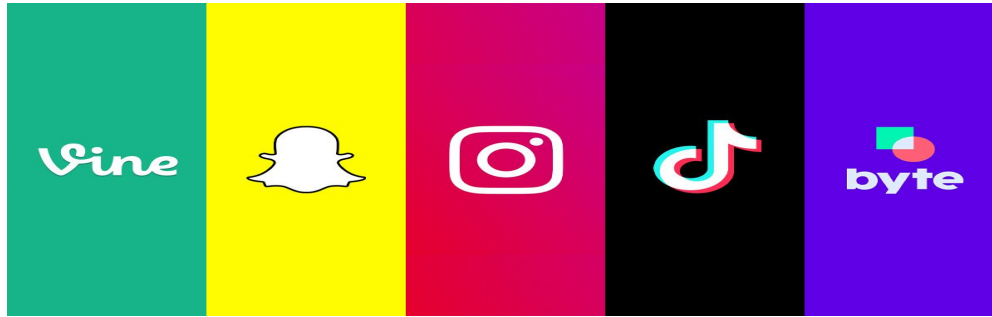
Figure 2: Pre-emergence, emergence, and post-emergence: attributes and 'stylised' trends.

Source: authors' elaboration.

COMPUTING APPLICATION EMERGING TECHNOLOGY TRENDS



Sight



Sound

• HOW ALGORITHMS RULE THE WORLD:- THE COMPETITION FOR HUMAN EYEBALLS

- From analog long form video editing to digital short video creation using computers -video editing software and computer applications:-history, evolution and development

COMPUTER APPLICATION AREAS

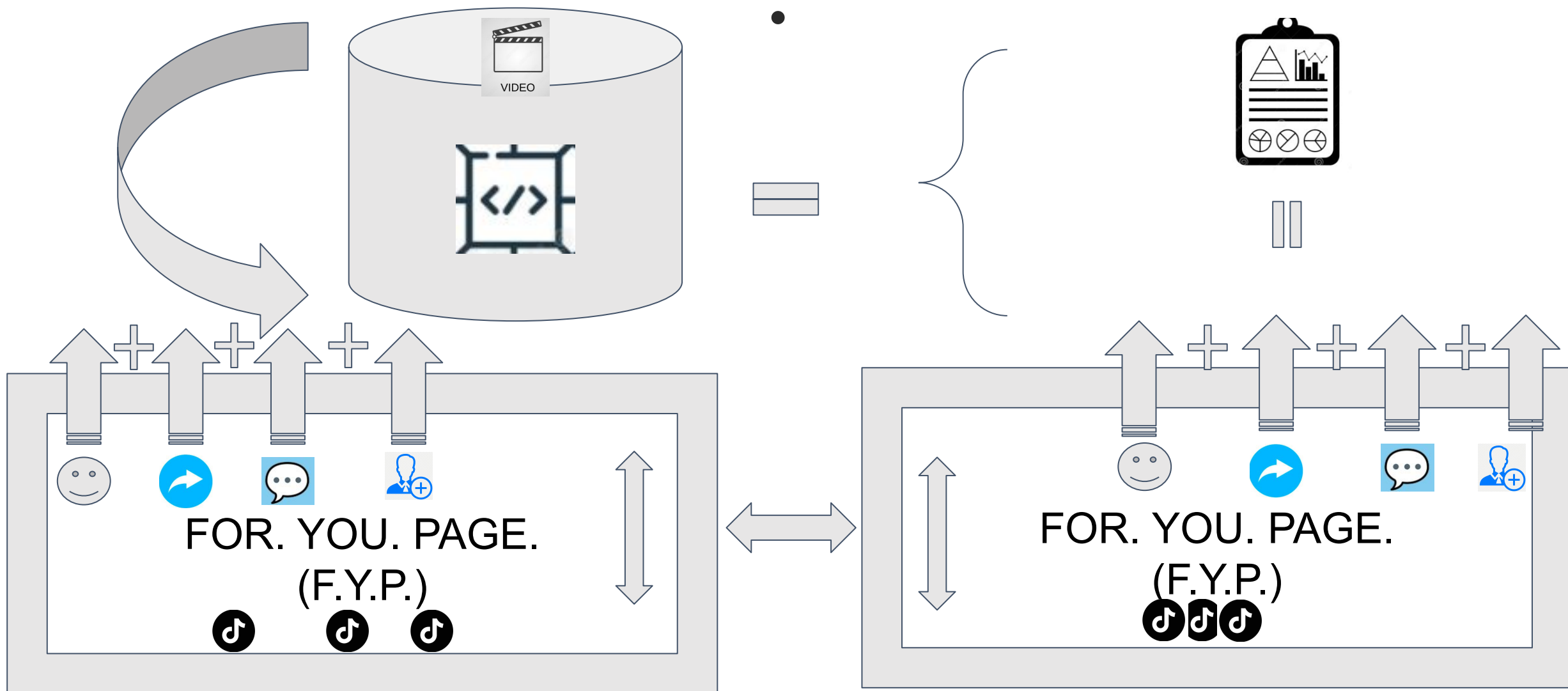
HOW ALGORITHMS RULE THE WORLD:- THE BATTLE FOR HUMAN EYEBALLS

- Video creation and editing algorithms
- present videos
- edit/create
- variations
- The questions being raised about algorithms at the moment are:-
- how they structure society?
- how they use data?
- Data privacy?

BATTLE OF THE ALGORITHM:- TIKTOK BAN. WHY HAVE More than Six Countries have banned Tiktok?

COMPUTING APPLICATION EMERGING TECHNOLOGY TRENDS

EMERGING TECHNOLOGY CASE STUDY #1:- HOW DOES TIKTOK FUNCTION?



COMPUTING APPLICATION EMERGING TECHNOLOGY TRENDS

IT'S AN ALGORITHMIC WORLD:- WE ARE JUST LIVING IN IT



- What is next in The battle of the Algorithms?
- What is NEXT after Tiktok and Twitter?
- START OVER WITH SOCIAL MEDIA?
- LESSONS LEARNT?
- TECHNICAL LESSONS?
- WHAT IS THE NEXT “GREAT” ALGORITHM?
- OPEN NATURED
- TOGETHERNESS
- DATA! DATA! DATA!

QUESTION AND ANSWER SESSION

ANY
QUESTIONS
?