



CSCI 101

Connecting with Computer Science

Lecture 2: Introduction to WWW II



Jetic Gū
2023 Fall Semester (S3)

Fair river! in thy bright, clear flow
Of crystal, wandering water,
Thou art an emblem of the glow
Of beauty -- the unhidden heart --
The playful mazziness of art
In old Alberto's daughter;

But when within thy wave she looks --
Which glistens then, and trembles --
Why, then, the prettiest of brooks
Her worshipper resembles;
For in my heart, as in thy stream,
Her image deeply lies --
The heart which trembles at the beam
Of her soul-searching eyes.

-Edgar Allen Poe

**"When was the last time you read a poem out loud
instead of taking a selfie?"**

-Winston Churchill

Overview

- Focus: Internet
- Architecture: von Neumann
- Readings: 1
- Core Ideas:
 1. The WWW
 2. Things to Think about, Cont.

The World-Wide Web

What is WWW vs Internet?

- The internet is a much bigger physical platform that supports all kinds of services
- The World-Wide Web (WWW) is a service offered in the Internet

History of the WWW


- Before the WWW, there was already the internet
 - Each service provider will have their own programme providing services
 - A programme for each OS (there were a looooot of em)
- 1989, CERN physicist Tim Berners Lee
 - Let's make it easier: using WWW
 - So what is the WWW? Webpages!

I hate apps



1. https://www.youtube.com/watch?v=_mNOXDbXr9c

WWW Concepts

- "A web of nodes, a user can browse at will"
- It no longer matters what computer manufacturer it is, what OS it is running if you have a browser you can access it
- **URLs:** Uniform Resource Locator, e.g. jetic.org
- **HTML:** Hypertext Markup Language, which embeds clickable **hyperlinks**
- **HTTP:** Hypertext Transfer Protocol  <https://www.youtube.com/>
- Tim Berners Lee: it should be Free and Open!

What does it take to build a website?

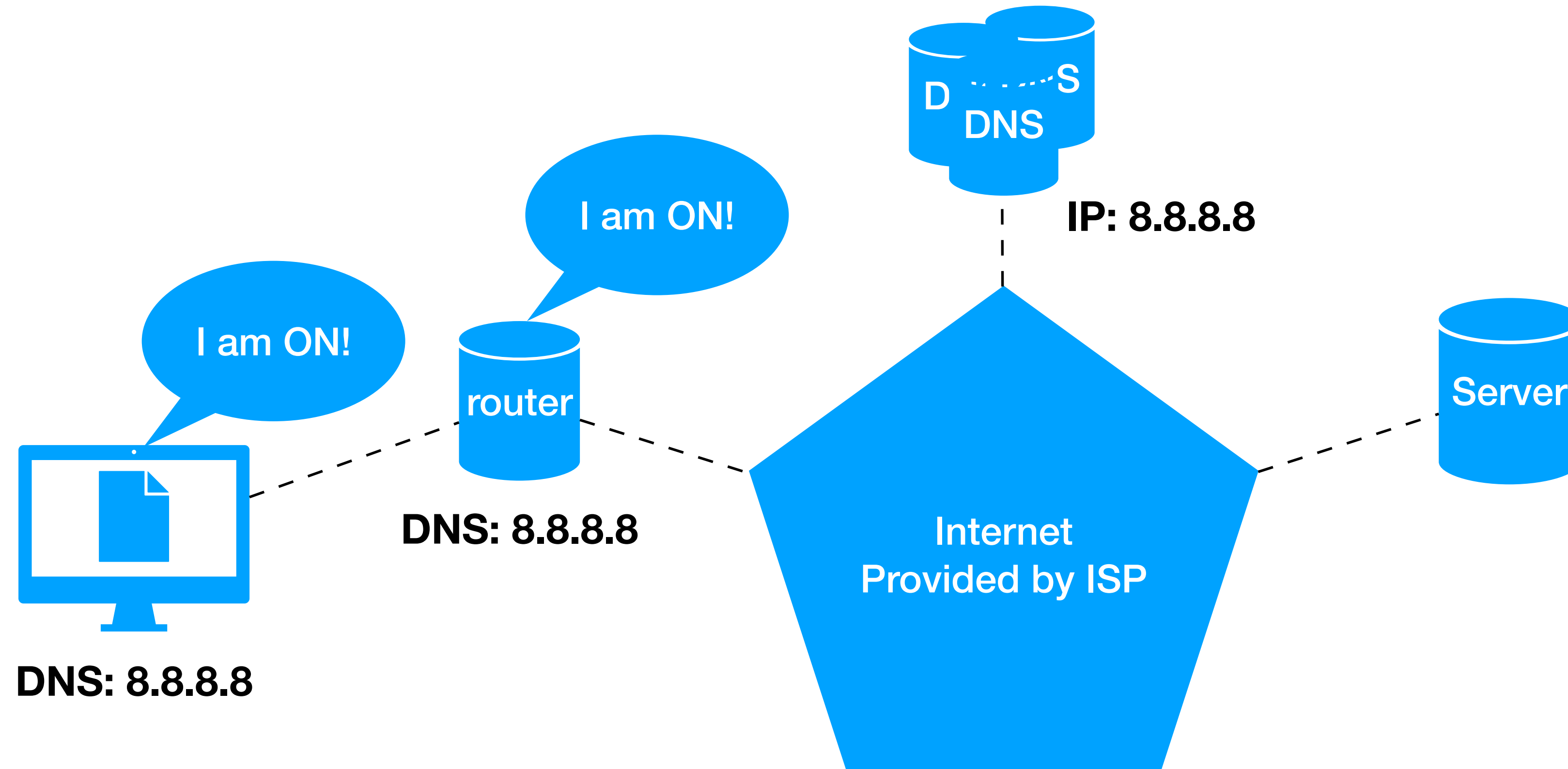
- A server machine running web-hosting applications
I am renting a server with ubuntu running apache2
- A domain
Mine is jetic.org . All **urls** ending with ***.jetic.org** are mine. (like cheese.jetic.org)
- A **DNS** (Domain Name System) server with your domain records
Computers in the Internet have **only IP addresses as identifiers**
DNS server tells people the **IP address of domains**
e.g. jetic.org: 139.162.15.171

How does DNS work?

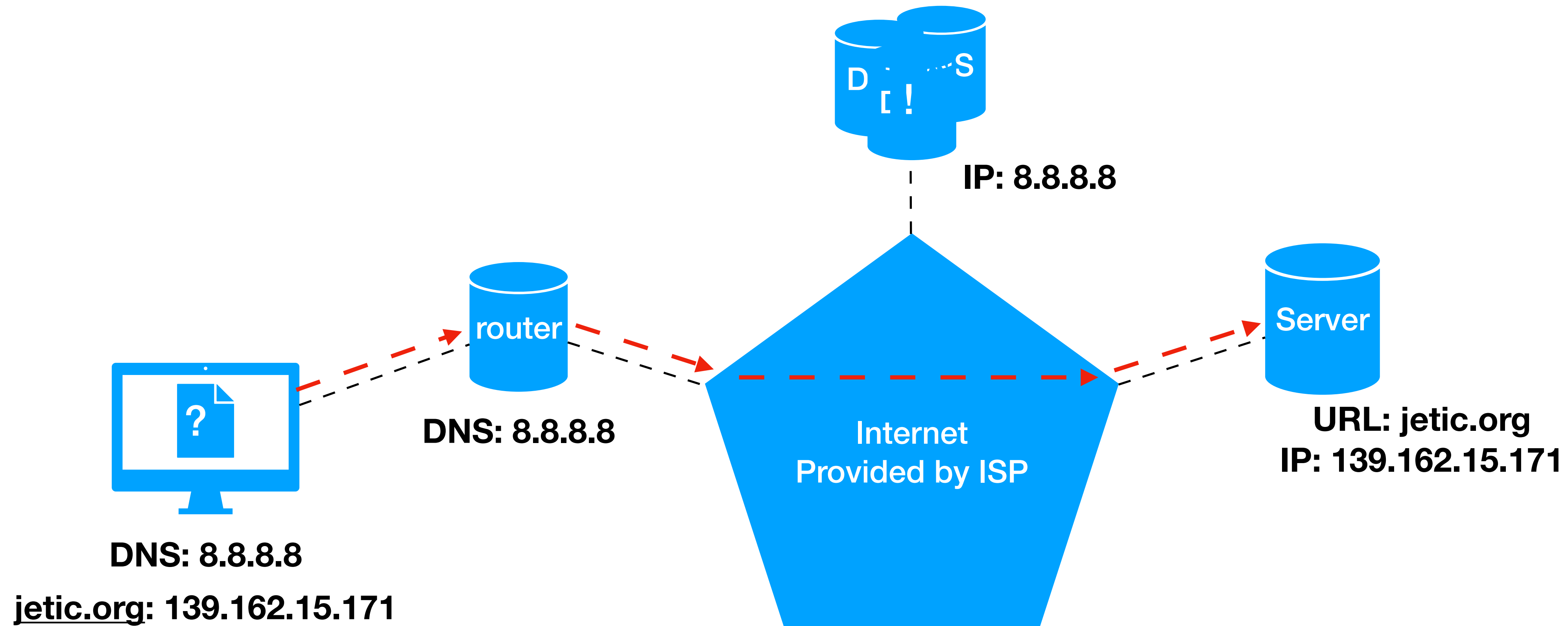
- Your computer gets a DNS server address from the router
- Your router gets a DNS server address from your ISP
- Your ISP's DNS server is synced with other local/global ISPs
 - You can select your own DNS server as well, Google's is 8.8.8.8¹

1. This is an IP address

How do you get `served`?



How do you get `served`?






1. Request for IP address (DNS lookup)
2. Request for webpage

The Evolution of Human Race in Age of Internet Cont.

What makes the Internet so revolutionary?

- Automation
- Detachment
- Untraceable

Detachment

- Are instant messages really instant? 
- Polarised public opinions
Is internet encouraging free speech or censoring it? 
- Service detachment
"Inhumane" automation of services 

Detachment

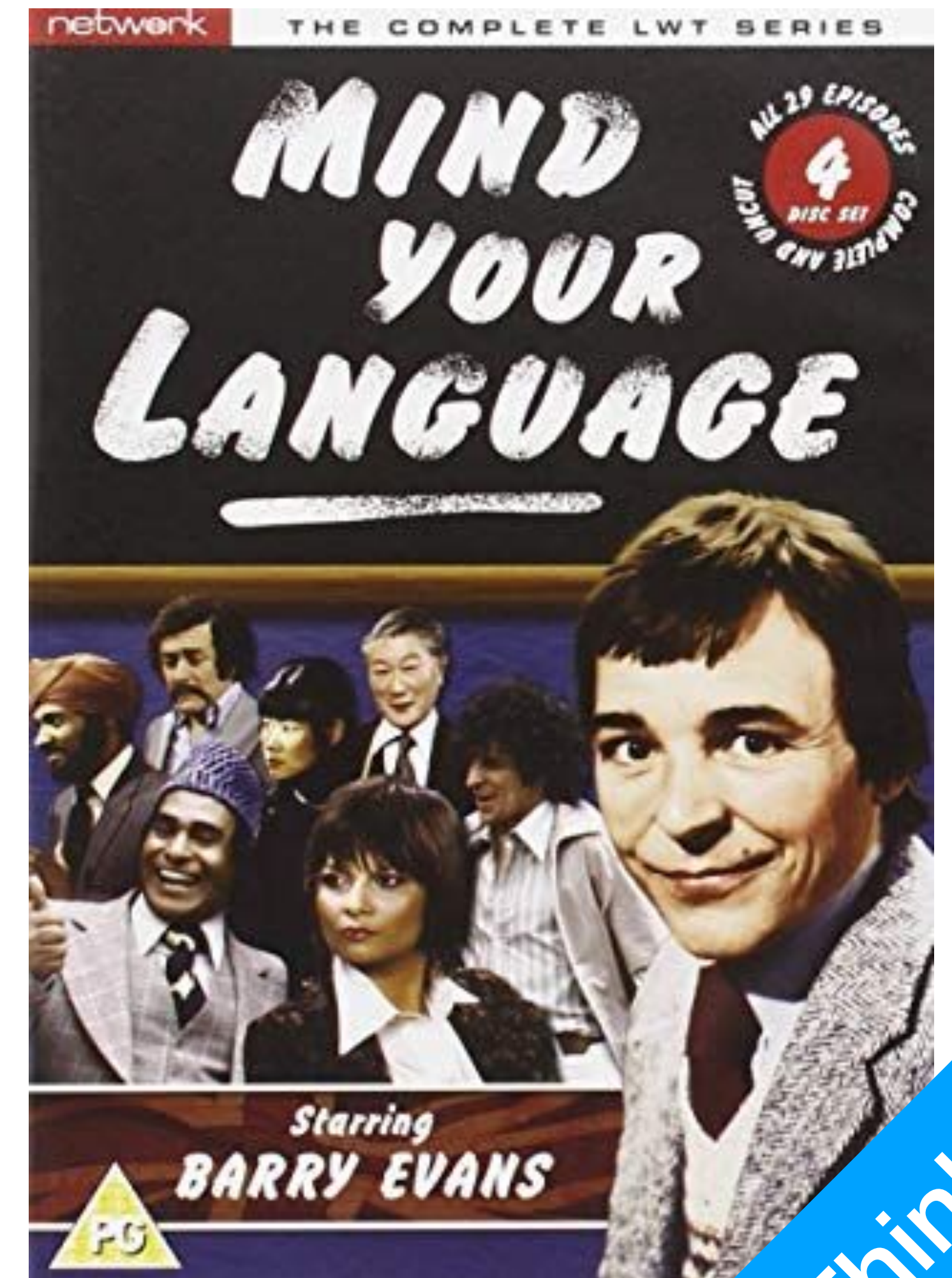


- Have you gone out a day without internet?
- How frequent do you check your phone?
- When's the last time you ate with friends WITHOUT ever checking your smartphone?
- Have you ever broken up with someone over SMS/Social Media?
- Have you ever had "read but no reply"?
- How often do conversations start/end with memes?

Think



Detachment

- Do you make your own choices?
- Do you really make your own choices?
Think about the bad things you've heard about Trump and Joe Biden. Are those sources really reliable?
- What do you think about Political Correctness?
- What do you think about the Ukrainian-Russian conflicts in recent days?






Think

Detachment

- Have you tried Fido's customer service?
- What do you think about online counselling?
- Ever heard of Salesforce? 
- What do you think about online education? 

Untraceable

- Blockchain and Cryptocurrencies 
- Cyberbullying and Privacy 
- Darknet 

The Evolution of Human Race in Age of Internet

- What has the internet changed?
 - The way we live
 - interact with family and friends, entertain, eat, and travel
 - The way we work
 - Online businesses
 - Intelligent business systems
 - The way we die



The Evolution of Human Race in Age of Internet

- Internet is a tool.
- DO NOT BE USED BY A TOOL.