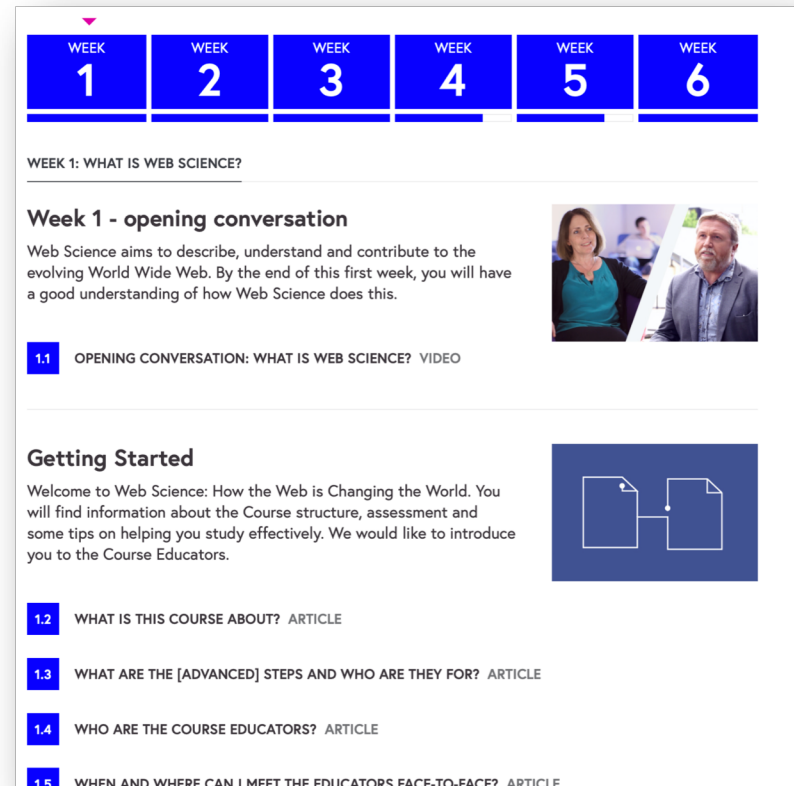# Content Delivery on the Web

Case Studies

Use Case: FutureLearn

- FutureLearn is a digital education platform founded in December 2012. The company is wholly owned by The Open University in England. It is a Massive Open Online Course (MOOC) learning platform, and includes 143 UK and international partners, including non-university partners.

- We offer a diverse selection of courses from leading universities and cultural institutions from around the world. These are delivered one step at a time, and are accessible on mobile, tablet and desktop, so you can fit learning around your life **futurelearn.com**

Web Science MOOC

- 6 week curriculum
  - 58 ARTICLE
  - 1 AUDIO
  - 25 DISCUSSION
  - 5 QUIZ
  - 1 TEST
  - 32 VIDEO

Use Case: FutureLearn

- Video Data
- 7.1 million users
- Learners from 153 countries
  - Large proportion from: the Middle East, Asia and Latin America
- Over 700 courses

Case Study

- FutureLearn run a large international education website containing LOTS of media.
- Can you estimate the size of their web hosting bill?
    - What information would you need?
        - About Future Learn?
        - About web hosting services?

CDN server considerations

- Support HTML5 live streaming
- Number of servers
- Location/distribution
  - NA/EU servers are cheaper than South American

Video CDNs

- Akamai
  - more than 240,000 servers in 130 countries
  - Pricing based on features required, the size of business, and bandwidth requirements
- Cloudflare
  - Monthly plans range from $20-$200/month per website,
  - Larger Enterprise plans available as well.
- CloudFront
  - Good in US, Canada, Europe, Asia, and South America. No coverage in Africa.
  - Pricing based on geographic region, bandwidth usage and features

Video CDNs

- Wowza
  - "live event" pricing,
  - API-based pricing
  - Monthly plans
    - Standard plan $199/month –bandwidth 3TB
    - Plus plan $499/month – bandwidth 7TB
    - Premier plan $999 per month, bandwidth 15TB
- IBM Cloud Video
  - HD broadcasting up to 720p resolution and 1080 supported on Enterprise plan
  - Silver plan $99/month (100 viewer hours)
  - Gold plan $499/month (some customer branding and more viewing hours)
  - Platinum $999/month (full customer branding and unlimited viewing hours
- Livestream
  - Basic plan $42/month
  - Mid level plan $199/month
  - Enterprise plan $799+/month for professional live video streaming

Amazon Cloudfront Pricing

- **Charge for storage in an Amazon S3 bucket.** You pay normal Amazon S3 storage charges to store objects in your bucket.

- **Charge for serving objects from edge locations.** You incur CloudFront charges when CloudFront responds to requests for your objects.

- **Charge for submitting data to your origin.** You incur CloudFront charges when users transfer data to your origin, which includes DELETE, OPTIONS, PATCH, POST, and PUT requests.

- For more details see
  https://aws.amazon.com/cloudfront/pricing/