**Industry:** **E-learning Platforms**  
**Company:** **Duolingo**  
**Software/System:** **Cloud & AI Solutions**  
**Group Members:** 4 Students  
**Duration:** 11 Weeks

**📅 Weekly Deliverables and Solutions**

**Week 3: Team Formation & Topic Allocation**

📌 **Deliverable:**

* Team assigned to **CC05 - Group 4 - Topic 23-3- Duolingo**.
* Initial research on **improvement of** **Duolingo’s cloud solution and AI integration**.

🎯**Solution:**  
Duolingo is an e-learning platform that offers “the free, fun, and effective way to learn a language” (according to its official website, https://www.duolingo.com/). Prior to Duolingo, its founder, Professor Luis von Ahn of Carnegie Mellon University, has already been an expert in computer science area, and already famous for his previous project, the predecessor of Google Image Labeler and reCAPTCHA. (https://techcrunch.com/2011/04/12/duolingo/) Therefore, Duolingo embrace new, cutting-edge technology easily. Duolingo is one of the first E-learning platform to introduce AI (sept, 2022. <https://blog.duolingo.com/how-duolingo-experts-work-with-ai/>) and in March 2023, Duolingo introduce ChatGPT-4 to max the learning experience for its customers, (<https://blog.duolingo.com/duolingo-max/>), when ChatGPT-4 just showed up within a month. We are interested in how Duolingo is able to catch up the newest technology and where it can be improved in a more flexible and easy-controlled cloud-based solution. More: (https://rive.app/blog/duolingo-s-ai-powered-video-call-brings-lily-to-life)  
  
The above information is done in Week 3, as the last member BOKAI finally joined.

**Week 4: Research on Industry Best Practices**

📌 **Deliverable:**

* Research on AI integration among top E-learning platforms.
* Investigate **industry standards and regulations** for IT practices.
* Identify **common IT challenges** in the company’s industry.

🎯 **Solution:**

* **Duolingo is kind of pioneer company to integrate AI in E-learning platform. However, there are more E-learning companies having introduced AI nowadays.**
  + **Coursera:**
    - Coursera announces new AI content and innovations to help HR and learning leaders drive organizational agility amid relentless disruption. (June, 2023. https://blog.coursera.org/trusted-content-and-ai-innovations-to-drive-organizational-agility-for-learning-leaders/)
    - New cutting-edge content and credentials from trusted industry and university leaders. (June, 2023. <https://blog.coursera.org/trusted-content-and-ai-innovations-to-drive-organizational-agility-for-learning-leaders/>. with example courses.)
    - New AI-powered innovations for a more personalized and interactive learning and scalable authoring experience. (June, 2023. <https://blog.coursera.org/trusted-content-and-ai-innovations-to-drive-organizational-agility-for-learning-leaders/>. With example courses.)
    - Additional product innovations to benchmark employee engagement. (June, 2023. <https://blog.coursera.org/trusted-content-and-ai-innovations-to-drive-organizational-agility-for-learning-leaders/>.)
    - A user manual of using AI integration. (https://www.coursera.org/articles/ai-integration)
  + **2U (edx):**
    - edX plugin launches in ChatGPT plugin store to give users access to content and course discovery. (<https://2u.com/newsroom/edx-debuts-two-ai-powered-learning-assistants-built-on-chatgpt/>)
    - **Application in US Uni.** edX Launches Artificial Intelligence Boot Camp with Leading Universities Across the U.S. (https://2u.com/newsroom/edx-launches-artificial-intelligence-boot-camp-leading-universities-across-us/)
  + **Chegg:**
    - Chegg announces CheggMate, the new AI companion, built with GPT-4. (April, 2023. https://investor.chegg.com/Press-Releases/press-release-details/2023/Chegg-announces-CheggMate-the-new-AI-companion-built-with-GPT-4/default.aspx)
  + **Udemy:** Skill up faster and smarter with Udemy AI. (<https://business.udemy.com/spotlight/ai-enabled-learning/?utm_source=organic-search&utm_medium=google>)
* **There seem no such standards for AI integration used on companies as AI are too new to be standardised. However, there are a blog from official saying that the Duolingo is on AWS S3 since 2017.**
  + https://blog.duolingo.com/rewriting-duolingos-engine-in-scala/
* **Duolingo improves it system quite rapid, which indeed improved user experience, but also gave more risks to undergo more system crashes.**
  + <https://www.justanswer.com/smartphones/nj99y-does-duolingo-keep-crashing-middle.html>
  + <https://duolingo.fandom.com/wiki/Troubleshooting>
  + <https://www.msn.com/en-nz/news/other/duolingo-is-down-language-app-crashes-for-hundreds-around-the-world/ar-AA1ARdy0>
  + <https://duolingoguides.com/duolingo-app-update-issues/>
  + <https://status.duolingo.com/> (with all error logs)

**Week 5: Team Formation & Topic Allocation**

📌 **Deliverable:**

* Document **existing IT infrastructure** used in the company.
* Identify **current software** and its role in business operations.
* Assess **strengths & weaknesses** of the current system.

🎯**Solution:**

* AWS: case study of Duolingo. https://aws.amazon.com/solutions/case-studies/duolingo-case-study-dynamodb/
* Detailed roadmap. It could be changed as this is 2017 post. <https://blog.duolingo.com/rewriting-duolingos-engine-in-scala/>
* Just design. 2022. <https://blog.duolingo.com/new-duolingo-home-screen-design/>
* <https://aws.amazon.com/machine-learning/customers/innovators/duolingo/>
* Cost reduced in 2024. <https://blog.duolingo.com/reducing-cloud-spending/>

Non-official materials:

* <https://duolingoguides.com/what-is-duolingo-developed-in/>
* <https://medium.com/gdg-vit/decoding-duolingo-how-technology-design-can-shape-learning-journeys-8a37f48138fc>
* https://www.nbcnews.com/pop-culture/duolingo-death-owl-duo-cybertruck-social-media-what-happened-rcna191939