Digital Technologies at Large UK FE and HE Education Group

Developing Interactive Learning Solutions for the HNC (Digital Technologies)

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Introduction

A leading educational institution specializing in vocational and higher education sought to enhance its Higher National Certificate (HNC) Digital Technologies program. To achieve this, interactive learning solutions were developed to improve student engagement and knowledge retention.

This case study showcases the work undertaken in collaboration with project managers and key stakeholders to create high-quality SCORM-compliant learning modules. It highlights the methodologies used, challenges overcome, and the impact of the learning solutions delivered.

Objectives

- Collaborate with key stakeholders and project managers to ensure high-quality learning solutions.

- Develop interactive and engaging SCORM modules to support HNC students.

- Meet tight project deadlines while maintaining high standards of instructional design and accessibility.

- Ensure quality assurance (QA) and sign-off processes for all deliverables.

Results

01. Successfully developed 20 SCORM-based learning modules, all of which were QA'd and signed off.

02. Implemented instructional design best practices to create engaging, student-centered learning experiences.

03. Worked within tight project timelines, ensuring timely and high-quality delivery.

Learning Solutions Developed

SCORM Modules

- Designed and built 20 interactive SCORM modules tailored for the HNC Digital Technologies curriculum.
- Ensured compatibility with the organisation's Learning Management System (LMS).
- Ensured that all learning solutions met accessibility requirements, making them inclusive for all learners.

Subjects Covered

- Big Data and Visualisation
- Networking in the Cloud
- Security
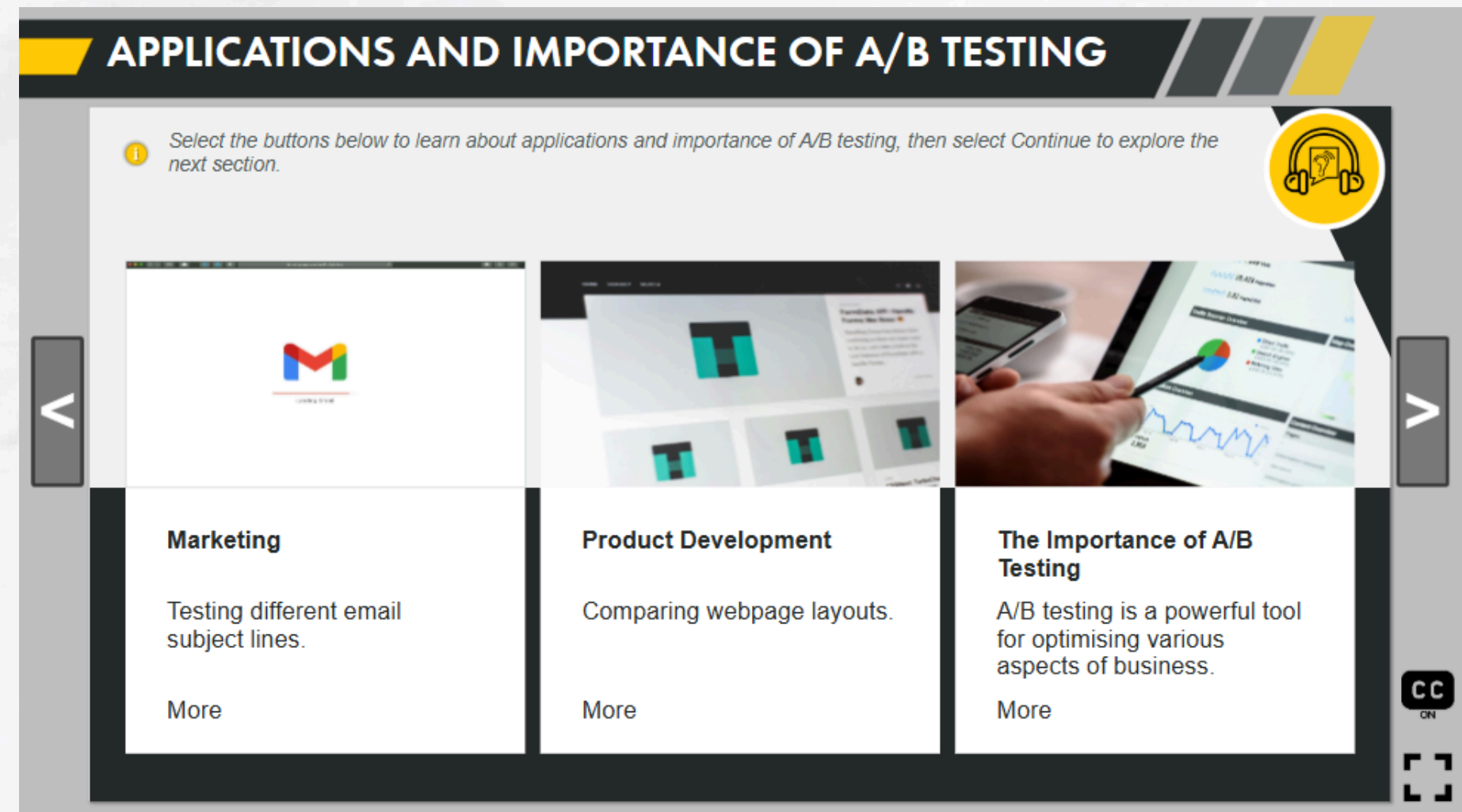- Data Analytics

BIG DATA LIFECYCLE

Start

Results & Impact

The project delivered the following resources:

20 Interactive Learning Solutions

📌 Results & Impact Highlights:

✔ Enhanced learning experience for HNC DT students
✔ Increased engagement & knowledge retention
✔ Positive feedback from stakeholders and project managers
✔ All deliverables met within agreed project timelines

The A/B TESTING PROCESS STEPS

Select the buttons below to learn about the A/B Testing Process steps, then select Continue to explore the next section.

Designing the Experiment

Identify variables and create variants.

More

Running the Test

Split the audience randomly between the two versions.

More

Analysing Results

Use statistical methods to determine which version is more effective.

More

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UNDERSTANDING THE TARGET AUDIENCE NEEDS

Before creating any data visualisation, it is important to understand who will be using it. Knowing your audience helps ensure that the visualisations are relevant, accessible, and easy to understand, ultimately aiding in better decision-making.

- CLARITY
- EFFICIENCY
- CONSISTENCY
- ACCESSIBILITY

Principles of user experience

User experience (UX) is all about making sure your audience can use and understand your visualisations easily. Here are some key principles related to UX.

Click on each of the Principles of User Experience buttons to learn more. Afterwards, select the Continue button to explore the next section.

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INTRODUCTION TO THE BIG DATA LIFECYCLE

The **Big Data** lifecycle encompasses the stages that **data** goes through from initial **collection** to final **disposal**. Understanding each stage is crucial for effectively managing and utilising data to drive **business decisions**. This lifecycle ensures that data is collected, processed, and analysed efficiently, maintaining high **quality** and **relevance** throughout its use.

Select each shape to learn more about the corresponding stage.

Big Data Lifecycle

Purpose Defining why data is collected

Capturing Data Methods and tools for data collection

Searching and Filtering Techniques to find relevant data

Retrieving Data for Processing Extracting data for analysis

Validation and Cleansing Ensuring data quality

Visualisation Representing data graphically

Analysis and Querying Interpreting data to derive insights

Utilisation and Storage How data is used and stored

Obsolete and Deleted Data Managing outdated data

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BIG DATA LIFECYCLE

Building on the foundational concepts of **Big Data**, understanding the **Big Data lifecycle** is essential for effectively managing data within an organisation.

The lifecycle encompasses each stage from defining the **purpose of data collection** to its eventual **deletion** or **archival**. By mastering this lifecycle, organisations can maximise the utility of their data while ensuring efficient **storage** and **management**, even as some data becomes obsolete or requires deletion.

Let's explore each step to see how they contribute to comprehensive data management.

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eLearning
Digital Technologies

REPORTING: PRESENTING DATA IN A USEFUL WAY

It is important to present the data in a way that makes sense for the audience. Presenting data in a way that makes sense for the audience matters as different audiences have different needs and levels of expertise.

For example, business executives might prefer high-level summaries, while analysts need detailed reports.

Importance

Relevance

Ensures the data presented is relevant to the audience's needs.

Clarity

Helps in making complex data easy to understand.

Click the Continue button to explore the next section.

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APPLICATIONS AND IMPORTANCE OF A/B TESTING

Select the buttons below to learn about applications and importance of A/B testing, then select Continue to explore the next section.

Marketing

Testing different email subject lines.

More

Product Development

Comparing webpage layouts.

More

The Importance of A/B Testing

A/B testing is a powerful tool for optimising various aspects of business.

More

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IMPORTANCE OF DATA VISUALISATION

Data visualisation is crucial because it allows us to:

- Simplify complex data: Make sense of large datasets quickly.

- Identify trends and patterns: Spot relationships and trends that are not obvious in raw data.

- Make informed decisions: Visual data helps in making better business or personal decisions.

- Communicate insights effectively: Convey information clearly to others.

- e.g. For instance, in a business setting, visualising sales data over time can help identify peak seasons, enabling better inventory and staffing decisions.

Click the Continue button to explore the next section.

CREATING VISUALS IN EXCEL

You can access information on how to create visuals using Excel here.

Objective: Provide hands-on experience in creating and customising visualisations in Excel.

Activities

- Create a Dataset
- Generate Different Chart Types
- Customisation: Modify Charts with Labels, Colours, and Styles
- Change Colours
- Modify Styles

Select all the buttons to find out more, then select the Continue button to explore the next section.

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Conclusion

01
Successful Learning Solutions

Over the past five months, the project has successfully delivered high-quality digital learning solutions that support the organisation's educational goals.

02
Collaborative Effort with PM Team

By integrating instructional design best practices, accessibility standards, and stakeholder collaboration, this project has not only met its objectives but has also set a benchmark for future digital learning initiatives.

03
Experience

This experience has further refined my expertise in eLearning development, instructional design, and project collaboration, reinforcing my ability to deliver effective and engaging digital learning solutions in higher education settings.