

# E-BOOK OF EXTENDED ABSTRACT

## THE 14<sup>TH</sup> INTERNATIONAL INVENTION, INNOVATION & DESIGN COMPETITION 2025



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# InsightVAULT – A CENTRALISED GOOGLE SITE PLATFORM TO ENHANCE LEARNING AND ASSIGNMENT MANAGEMENT FOR UNIVERSITY STUDENTS

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## ABSTRACT

This paper introduces InsightVAULT, an innovative Google Site designed to centralise learning resources and streamline academic engagement for university students. The primary objective of InsightVAULT is to serve as a one-stop digital platform where students can access essential course-related materials, acquire practical software skills, review past assignments, and submit current assignments efficiently. The platform is categorized into four main features: (1) Courses, which contains links to YouTube lecture videos, (2) Skills, which offers tutorials on using various academic software, (3) Archive, which directs students to Padlet pages with previous assignments, and (4) Submission, which facilitates assignment submission through Padlet or Google Docs. InsightVAULT is poised to significantly diminish the incidence of late submissions while concurrently enhancing access to lecture materials. The implementation of InsightVAULT enhances both teaching and learning experiences by improving accessibility, supporting self-paced learning, and reducing communication gaps between lecturers and students. This paper discusses the conceptualisation, development, and potential impact of the platform on higher education practices.

**Keyword:** *Digital learning, Google Sites, student engagement, academic resource management, learning innovation*

## 1. INTRODUCTION

The shift towards digital and hybrid learning models in higher education has introduced new challenges in organising, accessing, and managing academic content. While digital tools and platforms have become widespread, students often find themselves overwhelmed by fragmented systems for lecture materials, software tutorials, previous assignments, and submission portals (Bond et al., 2021). This disorganisation can hinder the learning process, affect students' motivation, and create unnecessary workload for lecturers who repeatedly need to guide students on where to locate resources.

Recognising this issue, InsightVAULT was conceptualised as a centralised Google Site platform to simplify the academic experience for both students and lecturers. Designed with accessibility and usability in mind, the platform serves as a digital repository and communication tool that brings together key academic resources in a single location. InsightVAULT is tailored specifically for

university students and is adaptable to various fields of study. Its development is guided by the principle that effective organisation and access to information can significantly enhance academic performance and teaching effectiveness (Martin & Bolliger, 2018). Unlike traditional Learning Management System (LMS) platforms, InsightVAULT integrates third-party multimedia and peer resources in a lightweight, zero-cost interface that can be easily replicated across programs and institutions.

## 2. METHODOLOGY

The development of InsightVAULT was based on a qualitative, user-centred approach that took into account the recurring difficulties students face in managing academic materials across multiple digital platforms. Informal observations and feedback were collected from students and lecturers, revealing the need for a structured and accessible online space where learning materials could be centralised. Responding to this need, the platform was developed using Google Sites due to its integration with other Google tools, ease of use, and zero cost. The structure of the site was designed around four key features, which are courses, skills, archive and submission.

## 3. FINDINGS

### 3.1 Courses

The “Courses” section (see Figure 1) contains embedded links to lecture videos hosted on a dedicated YouTube channel, enabling students to review course content at their convenience. This section provides course selection and structure. Through the Courses menu, students can select specific course codes and access related content such as the course title, level, SLT (Student Learning Time) hours, and a representative thematic image. This asynchronous model allowed students to access lessons flexibly. YouTube Analytics is expected to significantly boost lecture viewership, especially as submission deadlines approach. A major benefit of this section is that students are able to improve their understanding and the ability to review complex topics at their own pace.



**Figure 1** “Courses” interface in InsightVAULT, displaying course-level metadata and nested dropdown for course selection.

### 3.2 Skills

Figure 2 shows that the “Skills” section is dedicated to tutorials on using academic software, i.e, Revit, AutoCAD, Microsoft Office, Adobe Photoshop, and Rhinoceros 3D (Rhino), which are crucial for course learning, completing assignments, and developing professional competencies. The section gives flexibility to learn and rewatch materials at the students’ own pace as a key benefit. This will improve confidence in software usage, enabling students to revisit tutorials multiple times, a flexibility lacking in in-class demos.



**Figure 2** “Skills” dropdown displaying tutorials video for core academic software tools.

### 3.3 Archive

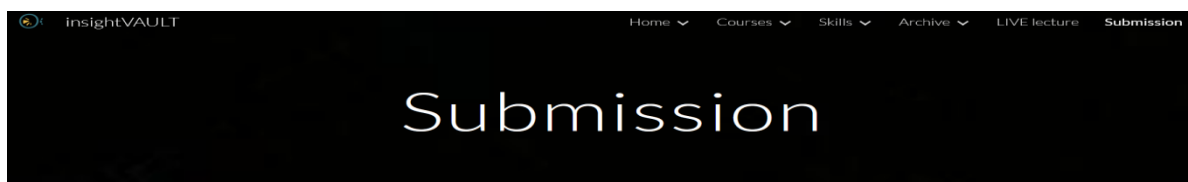
Figure 3 shows that the “Archive” section provides access to a Padlet board that stores samples of previous student assignments, such as students' presentations, reports, and studio work, offering valuable references and models. This structured design enhances user navigation, resource retrieval, and learning clarity. This section is helpful for new students or those unfamiliar with academic formatting and expectations, serving as a source of inspiration and guidance. Consent will be obtained from prior students before sharing their work, maintaining ethical transparency.



**Figure 3** “Archive” section offering categorised access to past student presentations, reports, and studio projects via Padlet.

### 3.4 Submission

The Submission section (Figure 4) streamlines the assignment submission process by providing direct links to Padlet or Google Docs forms, ensuring clarity and consistency in student submissions. This replaces confusing messaging threads and emails, leading to a drop in late submissions. Students will have better clarity and ease of locating where and how to submit their work. Lecturers will have a significant reduction in submission-related inquiries. A simplified visual guide was also included to assist first-time users.



**Figure 4** “Submission” section, an interface specifically designed to streamline the assignment submission process.

## 4. CONCLUSION

InsightVAULT stands as a practical and scalable innovation in digital learning management within higher education. By centralising key resources, i.e., lecture videos, software tutorials, sample assignments, and submission links, into a single, accessible Google Site, the platform addresses common issues faced by students and lecturers in managing online academic materials. The site not only simplifies the learning process but also empowers students to take greater control of their academic responsibilities. InsightVAULT demonstrates measurable improvements in content access, assignment quality, and submission timeliness. Moreover, the use of freely available tools such as Google Sites, Padlet, and YouTube ensures replicability across institutions with minimal cost. Future developments include integrating analytics dashboards for tracking student progress and expanding

tutorial content based on student needs. As higher education continues to evolve in response to digital development, platforms like InsightVAULT can play a vital role in enhancing teaching efficiency, student engagement, and overall learning outcomes.

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