

Traccia 1

1. Il candidato spieghi il concetto di Total Cost of Ownership collegato allo sviluppo applicativo.
2. Il candidato descriva i più comuni attacchi informatici alle applicazioni Web di tipo CRUD (Create, read, update and delete)
3. Il candidato descriva il ruolo della Commissione Paritetica Docenti Studenti
4. Il candidato illustri quando è richiesto eseguire un Data Privacy Impact Assessment
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

There can be no doubt that technology has transformed the way education is delivered to people across the globe. We now live in an interconnected world where the traditional concept of formal learning, taking place in a single physical location, is becoming increasingly less relevant. Modern learners are becoming dissatisfied with the stand-and-deliver approach to education that dictates attendance times, learning venues, and modes of participation. The emergence of sophisticated communication technologies and mobile devices has enabled a new generation of information consumers to satisfy their demands for knowledge without the need to meet in a physical location.

F.to La Commissione

Traccia 2

1. Il candidato discuta i vantaggi e gli svantaggi dell'utilizzo dei sistemi SSO
2. Il candidato illustri lo schema logico di una rete in cui esiste una "zona demilitarizzata" (DMZ), spiegandone le finalità dal punto di vista della protezione.
3. Il candidato illustri il ruolo del Nucleo di Valutazione
4. Il candidato illustri il ruolo del Responsabile della Protezione dei Dati
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

Software vendors, open-source developers, and educational institutions, cognizant of this development, have embraced systems that can facilitate the management of courses and engagement with students remotely. The technologies that facilitate the provision of courses over long distances are broadly termed "learning management systems" or "LMSs." Learning management systems can be defined as web-based software platforms that provide an interactive online learning environment and automate the administration, organization, delivery, and reporting of educational content and learner outcomes.

F.to La Commissione

Traccia3

1. Il candidato illustri il ruolo del protocollo DHCP nella gestione di una rete complessa, suddivisa in numerosi broadcast domain.
2. Il candidato indichi gli elementi che caratterizzano l'architettura di sicurezza Zero Trust
3. Il candidato esponga quali sono gli organi della "Sapienza" e quale le loro principali competenze
4. Il candidato esponga quale è il ruolo del Difensore civico per il digitale
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

There are many terms associated with online learning and the technologies that have evolved to support it. One persistent area of confusion is in the definition of the acronyms: CMS and LMS. The term CMS is often associated with two distinctly different software applications: “content management systems” and “course management systems.” Content management systems are essentially software applications designed for the creation and management of digital content in a collaborative environment. Course management systems on the other hand, according to Watson and Watson (2007, 29), are: used primarily for online or blended learning, supporting the placement of course materials online, associating students with courses, tracking student performance, storing student submissions and mediating communication between the students as well as their instructor.

F.to La Commissione

Traccia 4

1. Il candidato illustri lo schema logico di una rete in cui esiste un "reverse proxy", spiegandone le finalità dal punto di vista della protezione.
2. Il candidato indichi il ruolo delle misure minime di sicurezza AgID per una Pubblica Amministrazione, e in particolare quello dei penetration tests
3. Il candidato illustri il concetto di privacy by design collegato con il GDPR
4. Il candidato descriva quali siano i requisiti per poter essere eletto Rettore di un Ateneo italiano
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

To further complicate matters, some vendors and academics prefer to use the acronym LCMS which stands for "learning content management system" when referring to content management systems. The difference between a LCMS and a LMS is that the latter is broader in scope and includes the ability to track learner progress through an online course. It is a gray area where CMSs end and LMSs begin and many vendors, users, and institutions regard the terms CMS and LMS as synonyms. In this entry, the term LMS will be the only acronym used to refer to online learning platforms

F.to La Commissione

Traccia 5

1. Il candidato discuta i vantaggi dello sviluppo agile rispetto al sistema waterflow
2. Il candidato indichi le principali differenze tra un firewall di livello 3/4 e un firewall di livello 7
3. Il candidato descriva il ruolo del Comitato Unico di Garanzia
4. Il candidato spieghi cosa si intende per dato “particolare” nell’ambito del GDPR
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

The history of learning management systems has its roots in distance education. Countries such as Australia, with a geographically dispersed population, adopted measures early in their history to enable access to education for students who could not attend formal places of learning. One of the most prominent manifestations of distance education in Australia was the School of the Air (a correspondence school) which opened to the airwaves in 1951 and is still in operation today in some remote communities. The vocational education and training (VET) and university sectors in Australia also have a rich history of distance education where, prior to the advent of the Internet, communication and the dissemination of learning materials was largely conducted via regular mail services.

F.to La Commissione

Traccia 6

1. Il candidato discuta quando è preferibile sviluppare un app mobile rispetto allo sviluppo di una progressive web application (PWA).
2. Il candidato spieghi cosa si intende per autenticazione federata (ad esempio IDEM)
3. Il candidato descriva il ruolo responsabile “esterno” del trattamento in ambito GDPR e quando deve essere nominato
4. Il candidato descriva da chi viene eletto il rettore, quali sono le sue prerogative e quanto resta in carica
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

The availability of dial-up Internet services to most Australians by mid-1995 meant that distance education needed a radical overhaul and snail mail was no longer a viable option to sustain distance education services. Perhaps it was Sidney Pressey's creation in the early 1920s of a “learning machine,” a device that could administer questions through a window prompting the user to select a response out of four choices, that spurred the development of the first online LMSs. Or maybe it was the work of a Canadian company, SoftArc in 1990 who built the first stand-alone learning system deployed on Macintosh personal computers, that encouraged software developers to dream of an online learning space. Whatever the inspiration, the arrival of the Internet was set to revolutionize the way people communicated and engaged with each other and education providers realized that they would have to adapt to this brave new online world.

F.to La Commissione

Traccia 7

1. Il candidato descriva una possibile strategia di backup di un ambiente di virtualizzazione per server
2. Il candidato indichi la differenza tra SAML e OAuth 2.0 e dica quale protocollo usa il sistema SpID
3. Il candidato descriva come viene selezionato il Direttore Generale, quali sono le sue prerogative e quanto resta in carica
4. Il candidato descriva quali sono le regole da rispettare per l'installazione di sistemi di rilevazione delle immagini
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

The earliest manifestations of electronic LMSs were little more than a platform for the dissemination of learning materials online. These systems could broadly be categorized as belonging to one of two camps: proprietary and open source. One of the earliest proprietary systems was WebCT, developed at the University of British Columbia in 1995. Open-source systems by contrast, were developed collaboratively by software specialists with a view to making the source code readily available to organizations and individuals free of charge. They were initially popular with universities and colleges who could readily download the source code, adapt it to their own circumstances, and build their own tailored LMS solutions.

F.to La Commissione

Traccia 8

1. Il candidato, facendo riferimento a una applicazione web, illustri il funzionamento di un sistema di autenticazione e autorizzazione federata, evidenziando vantaggi e criticità
2. Il candidato spieghi in cosa consiste l'attacco SQL Injection
3. Il candidato descriva cosa sono i cookie tecnici e se i cookie analytics possono essere considerati tecnici
4. Il candidato descriva il ruolo del Consiglio di Amministrazione in un Ateneo e la sua composizione in "Sapienza"
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

A prominent example of an open-source system in operation globally today is Moodle. Moodle was developed by Martin Dougiamas with the first version released in August 2002. The acronym Moodle stands for “Modular Object Oriented Dynamic Learning Environment.” The system was developed based on a constructivist philosophy emphasizing the role of learners as creators of content and not merely spectators. Moodle is arguably the most popular open-source LMS in use today with almost 100,000 registered sites in 229 countries. A robust, high-quality LMS is a vital tool to the success of any online course and can make or break an institution’s reputation in the highly competitive education market.

F.to La Commissione

Traccia 9

1. Il candidato illustri cosa si intende per Universal Design
2. Il candidato descriva come è possibile integrare l'autenticazione di un Ateneo con quella presente in un cloud
3. Il candidato descriva il ruolo del Senato Accademico in un Ateneo e la sua composizione in "Sapienza"
4. Il candidato descriva cosa si intende per data breach e quali siano le attività che devono essere poste in essere nel caso si verifichi
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

LMSs not only need to provide content to learners, but they must also facilitate timely and accurate communication between learners, course facilitators, and other institutional stakeholders. Yildirim et al. (2004, 125) emphasize that in addition: an LMS should be dynamic; that is, it should be active, flexible, customizable and adaptable. Whether a LMS is proprietary or open source, it will need to be capable of executing a variety of functions that work together to provide a seamless experience for the user. These functions include the capability to disseminate knowledge, assessment of learner competency, the recording of learner attainment, support for online social communities, communication tools, and system security. Figure 1 illustrates the categories of features that are expected to be present in most high-quality LMSs.

F.to La Commissione

Traccia 10

1. Il candidato spieghi quali criteri adotterebbe per la scelta tra l'acquisto e lo sviluppo di una applicazione
2. Il candidato descriva cos'è il servizio RADIUS e quando si usa
3. Il candidato descriva quali siano i requisiti normativi da considerare nell'acquisto di un sistema in cloud da parte di un ateneo
4. Il candidato descriva il ruolo del Presidio di Qualità dell'Ateneo
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

Course management features encompass a LMS's capacity to deliver timely relevant course material to enrolled learners. It would include such features as content management and control, class scheduling, and content-audit capabilities. The capacity for users to contribute to content creation in their own personal space could also come under this domain. Assessment is a critical function of LMSs. A LMS must be able to support the collection and storage of assessable tasks, along with the assignment of grades and feedback for each learner. Assessable tasks can include assignments, tests, projects, and portfolio evidence provided by the learner. For institutions in the VET space, the capability to automatically generate compliance reports is particularly valuable as it facilitates compliance with quality standards.

F.to La Commissione

Traccia 11

1. Il candidato descriva sinteticamente le principali funzioni di un CERT in ambito universitario e l'interazione con i CERT di livello superiore alla luce delle ultime disposizioni normative
2. Il candidato illustri come si potrebbe introdurre un'autenticazione a 2 fattori in un Ateneo che fa uso del protocollo SAML per l'autenticazione
3. Il candidato descriva il ruolo del Garante degli studenti
4. Il candidato discuta la differenza tra servizi on site ed in cloud
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

LMSs should also be capable for providing learners with real-time information on their progress in a course along with relevant feedback generated by the instructor. Tracking Progress Attrition of learners is an issue that concerns many institutions. In an online environment, the experience has been that learners are at a greater risk of withdrawing from programs because of the lack of face-to-face contact. The ability to track user engagement in a course is therefore considered an important feature. User tracking analytics can include log-on frequency, time spent in different sections of a course, communication interactions, and the number of resources downloaded. With appropriate reporting functions, course facilitators are able to detect possible student performance deficits and intervene before course withdrawal or termination becomes likely.

F.to La Commissione

Traccia 12

1. Il candidato spieghi quali siano le figure coinvolte nel ciclo di sviluppo di un software
2. Il candidato descriva come si svolge un attacco SQL injection
3. Il candidato descriva cosa sono i JWT
4. Il candidato descriva la composizione del Consiglio di Amministrazione in "Sapienza"
5. Il candidato legga ad alta voce e traduca il testo sotto riportato

Communication tools within LMSs can be broadly classified as synchronous or asynchronous. Asynchronous tools support one-way communications such as e-mail, discussion boards, or Wikis. They are often preferred by course facilitators because they can be initiated in an ad hoc manner. Synchronous tools, on the other hand, are two-way communication tools supporting real-time information interchange. Examples include instructor-led videoconferences and interactive message boards. This latter class of communication tools is often seen as important to replicating traditional classroom-based communications, thereby fostering a sense of community among online learners.

F.to La Commissione