James Everett Tourtellotte IV
Nayan Bhut
Madeleine Charland
Chahine Salahdinne

9/29/2024
IT 216 001
Project Phase 1 - Deliverable

Information Technology, Cybersecurity, and E-Learning - all of these sectors are predicted to grow just over 10% in the next decade. The two former industries heavily utilize the latter, which brings reason and motivation to this project. Furthermore, understanding the current state of E-Learning and how it impacts those pursuing Information Technology and Cybersecurity is crucial to our motives. Both of those fields, outside of traditional academic institutions, require constant learning due to their evolving nature - therefore the need for a readily accessible and constantly available learning platform would be a critical aspect to our solution in the environment at hand. However, do current solutions adequately provide optimal environments to foster an effective learning environment?

The current platforms commonly associated with E-Learning can be optimized through content delivery, user engagement, and Network/Server infrastructure. Information Technology is an applied science, there is a necessity not only for concept recall but also the application thereof. There are current solutions that offer solely verbal knowledge required to adequately make use of interactive, applied labs. However, those platforms usually do not have interactive applied labs. Inversely, the solutions that host interactive and applied labs - usually do not offer fundamental learning concepts that are necessary to effectively utilize the exercise at hand. Even worse - these interactive solutions generally have suboptimal infrastructure for the labs they offer. This project aims to reduce the impact of these crucial aspects of learning by providing solutions that can be integrated into one single platform.

First, we will ensure the content delivery is in an optimal manner by limiting and preventing distractible design. Current solutions, specifically non-lab providers, are verbose in nature. The content might be optimal, but given the nature of effective learning - a distractible platform by design is counterintuitive to the learning experience. This objective will be addressed by an expert and the solution will be implemented through a Systems Analyst as an Expert. The individual will be acquired through an interviewing process set forth that clearly outlines the objectives and goals required for the project at hand.

Concept repetition alone is a limited learning environment. This approach to learning is sub-optimal and serves as motivation to introduce a platform which always utilizes hands-on labs. Current solutions push users into an environment in which they hop platforms to practice what they learn, as many e-learning solutions do not foster a combined and accessible multi-modal learning experience. This project aims to create a multi modal learning experience that improves customer experience and satisfaction by centralizing the learning experience onto a single platform. This will be achieved by leveraging expert Systems Analysts and Cloud Computing to implement our solution. This is due to the nature of Information Technology Labs. Information Technology Labs themselves are IT Infrastructure which require an expert to architect, and the infrastructure to host it. By design, this project should set up the necessary environment for an optimal learning experience - thereby increasing customer satisfaction and experience, and likely a more profitable platform. At the end of the day, the availability of this concept is based on code - which current platforms have shown to be suboptimal in designing solutions for Lab hosting environments.

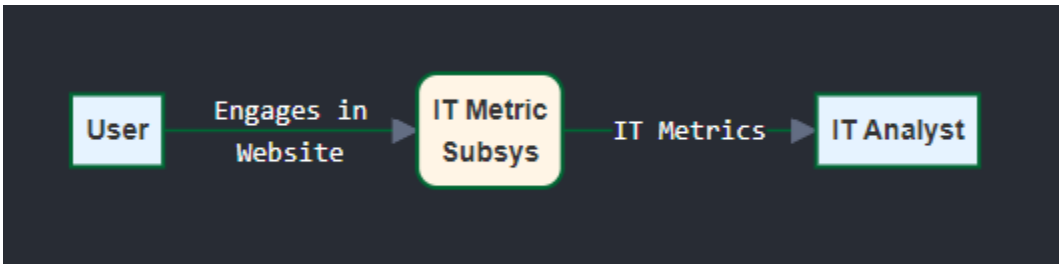
The platforms that currently provide interactive learning solutions do so suboptimally. Whether it is an inefficient network solution via VPN, virtual machine, or lab server - numerous suboptimal conditions impact the ability to foster an effective learning environment for the customer. Our motivation to solve this problem lies in the fact that this effective learning environment is dependent on available infrastructure for the customer at time of use. If the ability to expose yourself to the information, and environments, necessary for growth fail repeatedly or operate sub-optimally - they do not foster a practical learning environment. The fields of Cybersecurity and Information Technology value sharing knowledge, providing gates to this knowledge is counterproductive to the field at hand. Our objective will be to provide optimal Network and Server solutions through a SLA that can achieve the 5-Nines of Uptime that our platform aims to achieve, providing resolution to infrastructure based problems for the betterment of customer satisfaction.

List Stakeholders and their roles, relationships, and set of activities to be performed.

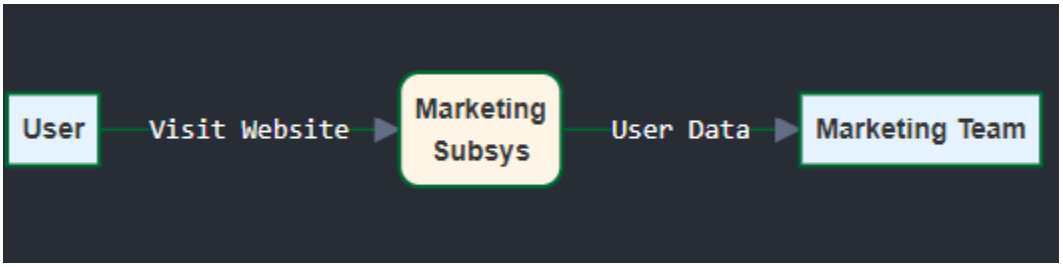
1.) Stakeholders Actual
    a.) Main Role: Supplying funds and capital to the Process of creating this project.
    b.) Relationships: Financial.
    c.) Activities Performed: Funding.
2.) Account Manager (For cloud)
    a.) Main Role: Maintaining the relationship between the Platform and its Cloud infrastructure provider.
    b.) Relationships: Involvement with infrastructure and the provider.
    c.) Activities Performed: Metric analysis and pulse checks.
3.) Help Desk Staff
    a.) Main Role: Assist in managing support tickets
    b.) Relationships: Relationship with platform, users, instructors, and Account Manager.
    c.) Activities Performed: Support Ticket Management.
4.) Instructor
    a.) Main Role: To supply information, knowledge, on a particular subject.
    b.) Relationships: With user, platform, help desk
    c.) Activities Performed: Course supply.
5.) Software Engineering Staff
    a.) Main Role: To facilitate the SDLC process of the entire project from creation to maintenance.
    b.) Relationships: With helpdesk, Stakeholders actual, account managers.
    c.) Activities Performed: Software development.
6.) Analysts as consultants
    a.) Main Role: Guide in facilitating the efficiency of architecting project at hand.
    b.) Relationships: With software engineering staff, help desk, account managers.
    c.) Activities Performed: Consulting.
7.) Marketing Team
    a.) Main Role: To facilitate the advertisement of the Platform, aiding in the acquisition of funds once platform is launched.
    b.) Relationships: With Stakeholders, account managers
    c.) Activities Performed: Advertising metric analysis, data, and execution thereof.

List the components involved in your system, by potential category, leave some blank if need be

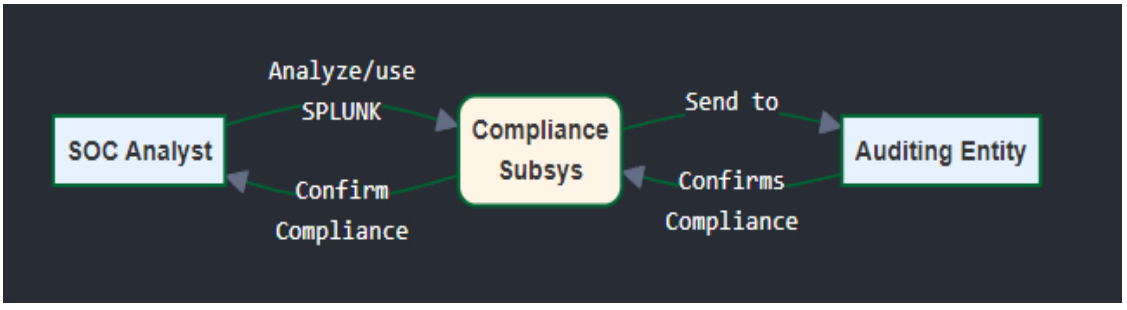
1.) Reports
    a.) IT Efficiency
        i.) This is any form of IT Efficiency Metric that is gatherable through any given software.
        ii.) Context Level Diagram:
        iii.)



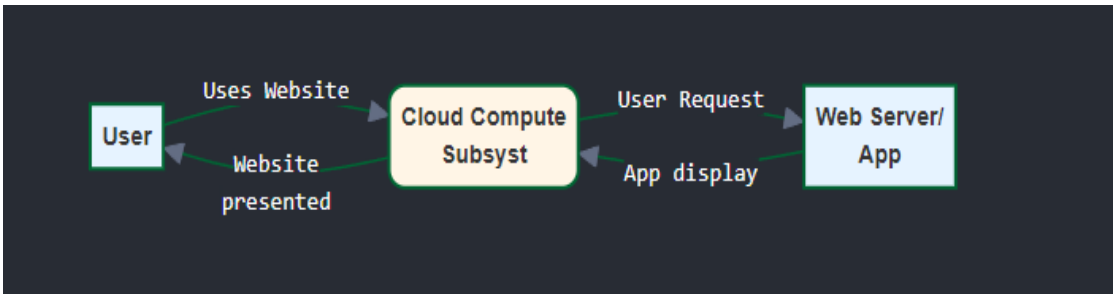
    b.) Marketing
        i.) This is a report of any necessary Marketing Metric to better facilitate advertising efforts by the Marketing Team, in an effort to draw users into the E-Learning platform.
        ii.) Context Level Diagram:
        iii.)



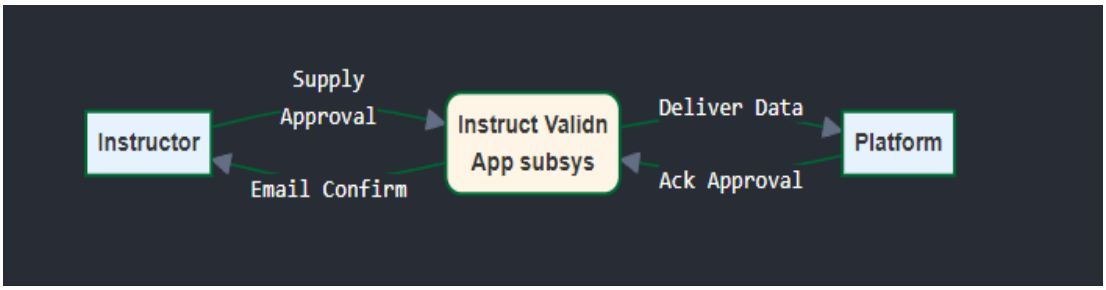
    c.) Compliance
        i.) This is a report of any necessary metrics security wise that must be attained for Security Compliance within our organization
        ii.) Context Level Diagram
        iii.)



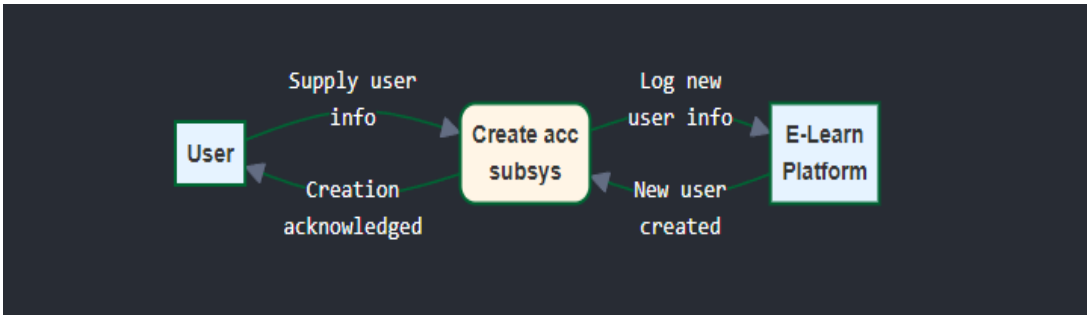
2.) Machines
    a.) Cloud Infrastructure to host the platform
        i.) This is a conceptual diagram of the flow between the Cloud Computing solution, the web server we host it on, and the input from the user
        ii.) Context level Diagram
        iii.)



3.) Documents
    a.) Instructor Validation Application
        i.) This is the document to which the Instructor must fill out before being allowed to produce course content on the E-Learning Platform.
        ii.) Context Level Diagram
        iii.)



4.) Processes
    a.) Create Account
        i.) This is the process in which the User creates an account on the platform for the first time
        ii.) Context Level Diagram
        iii.)

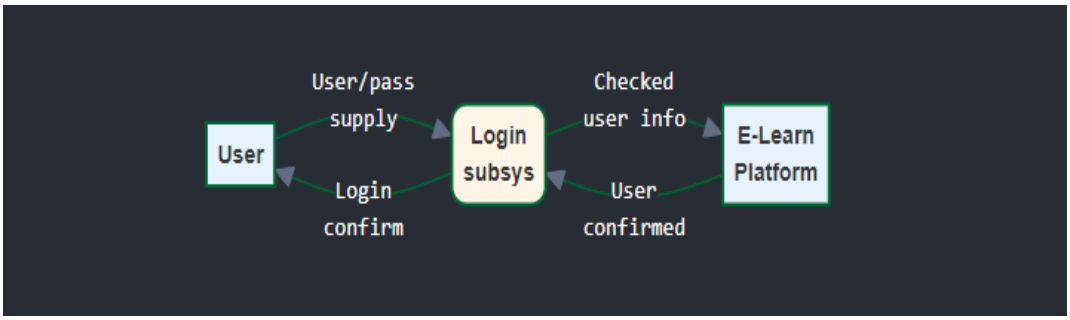


b.) User Login

i.) This is the process to which a Valid User logs into the platform for further use.

ii.) Context Level Diagram

iii.)

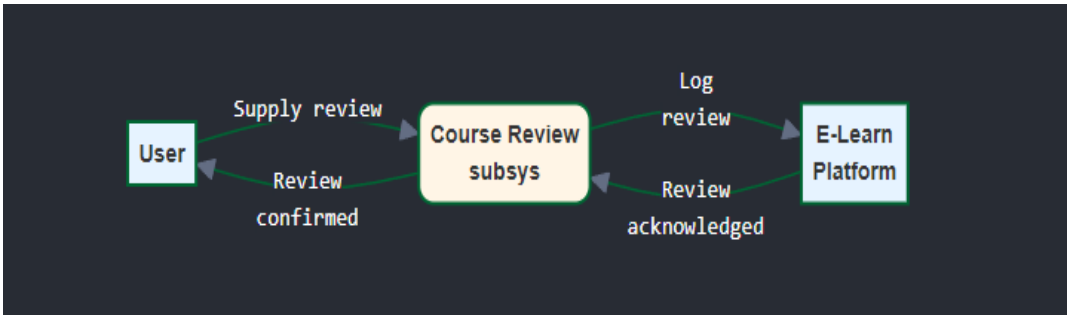


c.) Review a Course

i.) This is the process to which a Valid User is able to review any given course to which they could be enrolled in.

ii.) Context Level Diagram

iii.)

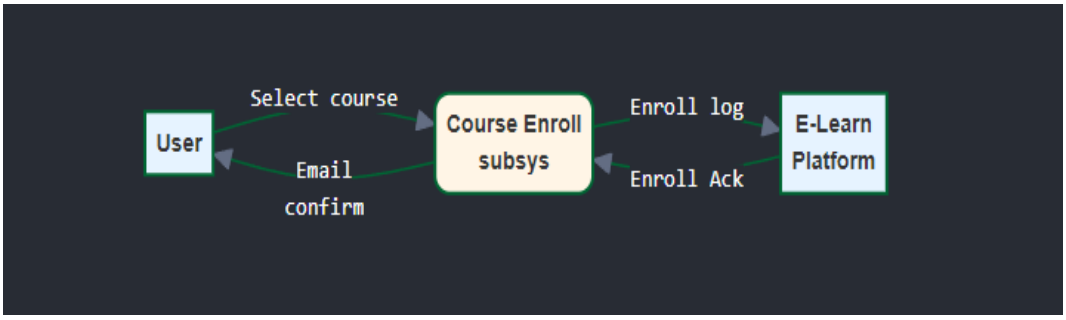


d.) Enroll in a course

i.) This is the process to which a Valid User is able to enroll in any given course that exists on the platform.

ii.) Context Level Diagram

iii.)

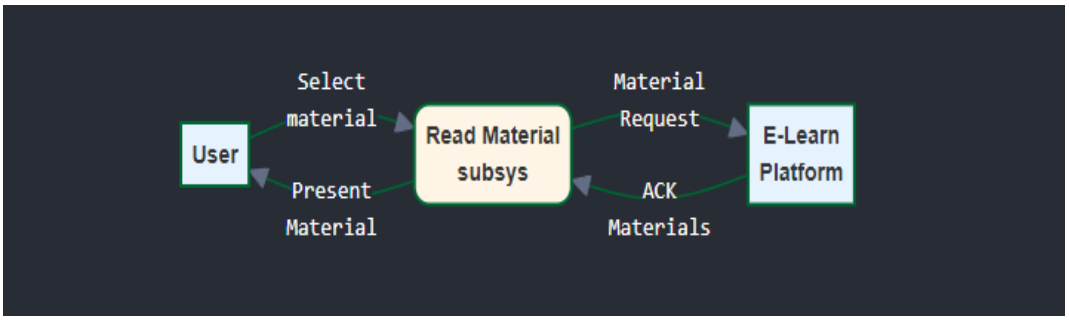


e.) Read course materials

i.) This is the process to which a Valid User is able to read course materials that are related to a given course they are enrolled in.

ii.) Context Level Diagram

iii.)

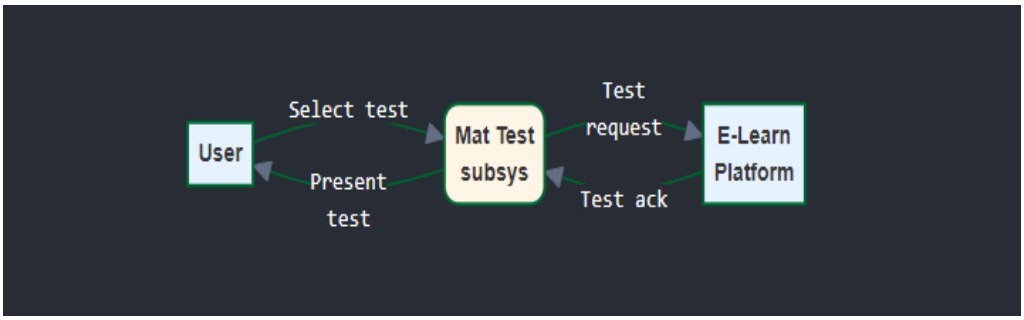


f.) Tests on course materials

i.) This is the process to which the user can do written tests on the materials (Mat) to which they have been participating with.

ii.) Context Level Diagram

iii.)

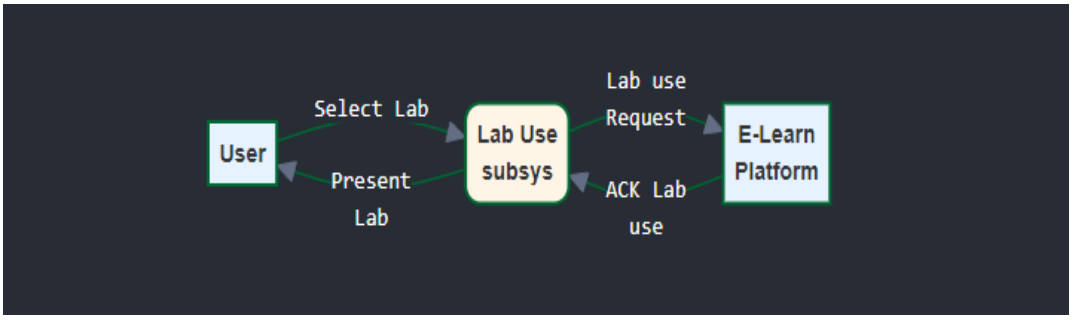


g.) Labs on course materials

i.) This is the process to which the user can engage in hands on labs in relation to the courses to which they have been participating in and learning from

ii.) Context Level Diagram

iii.)

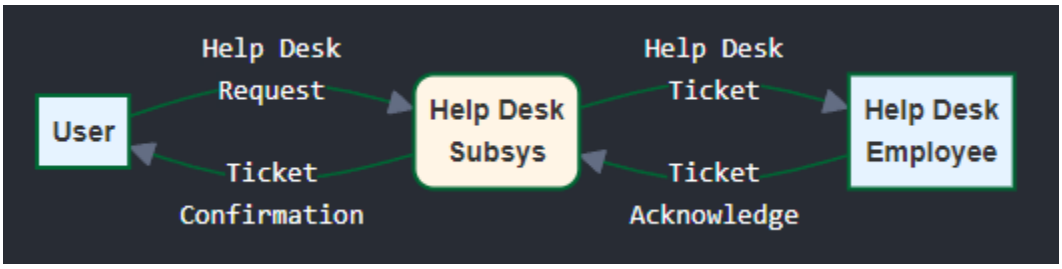


h.) Help Desk Support

i.) This is the process to which the user or instructor may request help from the Help Desk in relation to any given issue occurrence from platform use.

ii.) Context Level Diagram

iii.)

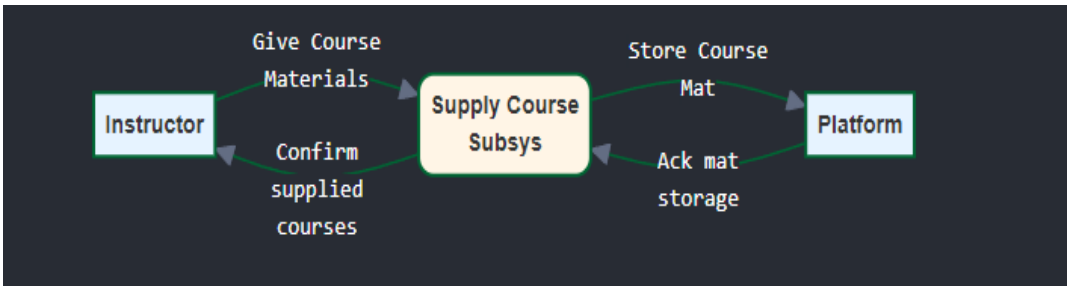


i.) Supply a Course

i.) This is the process to which a valid instructor may Supply a course to the platform for Valid Users to learn from.

ii.) Context Level Diagram

iii.)

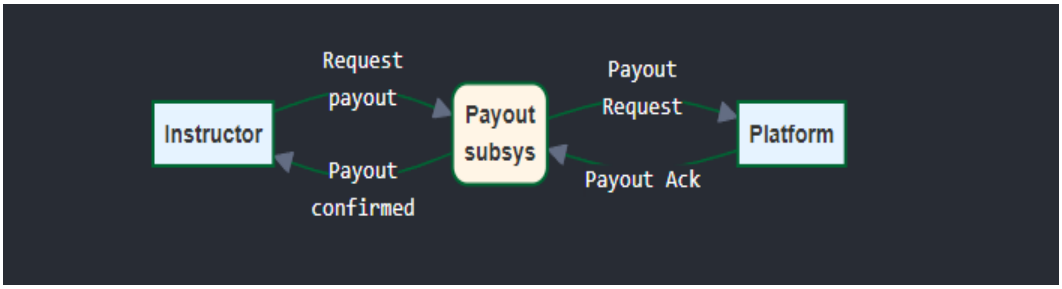


j.) Instructor Payout

i.) This is the process to which a Valid Instructor may receive payout from the platform in a manner pre-defined and established by the project at hand.

ii.) Context Level Diagram

iii.)



List the Use cases: Tables following

1.) Create Account
2.) User Login
3.) Review Course
4.) Enroll in Course
5.) Read Materials
6.) Test Knowledge on Materials
7.) Engage in Hands-On Labs
8.) Review Peer Consenses (Check forums related to labs, courses, etc.)
9.) Help Desk Support
10.) Apply to be Instructor (Instructor User)
11.) Supply Course (Instructor as User)
12.) Instructor Payout (Instructor as User)