

7-2 Final Project Submission: Project Closure Document

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Introduction

F-SECURE headquarters does not include or give cybersecurity training on phishing attacks as part of the onboarding process for new employees. Threatening actors (anyone who has access to protected, unprotected assets) or internal security concerns have undermined company confidentiality in the recent year, including, but not limited to, the following instances/events (Valenzuela, 2022, p. 1-2):

- ✓ Employees who purposefully, maliciously, or inadvertently destroy company information are not prosecuted
- ✓ Service interruptions have occurred
- ✓ Carelessness when utilizing company computer systems and other assets
- ✓ Inadequate awareness of information technology systems' proper use

Furthermore, the company's cybersecurity awareness training provides minimal protection against the following threats and vulnerabilities (Valenzuela, 2022, p. 1-2):

- ✓ The value of secure network connections and passwords
- ✓ The employees had no idea about passwords or other security measures
- ✓ Within 20 years, 200 people had their credit card numbers, passwords, or other personally-identifying information stolen
- ✓ Using Bring Your Own Device (BYOD) devices, invaders gained access to office systems and company data

Educating employees at all stages and subdivisions on cybersecurity has become essential. It begins with the correct education package for everyone. Securing business data needs a cybersecurity awareness program. Now is the time to worry about cybersecurity. (E-Science Direct, n.d.)

Significance

Security Awareness Training educates employees in cyber security situations. It raises awareness of cyber security threats, reduces cyber-attack risks, and establishes a security compliance principle. (E-Science Direct, n.d.)

Insecure information may result in job loss, financial damage to the firm, personal data leakage, and even legal and criminal charges. (E-Science Direct, n.d.)

As part of security awareness training:

- ✓ Improve corporate resistance to cyber threats by changing staff thinking and behavior.
- ✓ Encourage engagement and commitment to cyber security.
- ✓ Boost audit results and demonstrate compliance.
- ✓ Reduce security risks by decreasing human error. (Karl, 2021)

The firm must educate employees about common threats. A comprehensive cybersecurity awareness campaign also decreases the risk of security breaches and frees up time for the IT (Information Technology) department. (Karl, 2021)

Continuity is vital since training is often forgotten. People are increasingly under pressure to increase productivity; therefore, they see security as uncomfortable and seek ways to avoid it. Most people forget to follow processes and conventions unless periodically reminded, even when not under stress. Any security and risk management plan should incorporate staff "security awareness" training. (Karl, 2021)

Educating staff is the best way to safeguard a company against malware, phishing frauds, and unsafe URLs. According to studies, many data breaches occur due to employees' inability to detect malware attacks and unwittingly supporting hackers. (Karl, 2021)

Objectives

All employees and contractors who administer, use, or operate the company's computer system must undergo continuous education in computer security awareness and best practices. The user should be educated to seek assistance while using the system and report security vulnerabilities. (Karl, 2021)

The following are the project's goals (Valenzuela, 2022, p. 1-2):

- ✓ Security Awareness Training Approval
- ✓ Training on phishing frauds
- ✓ Phishing detention
- ✓ Best Workstations practices
- ✓ Use, care, and disposal of complex/strong passwords
- ✓ Use of unique passwords:
 - ✓ Include upper- and lowercase letters, digits, and symbols
 - ✓ Have eight characters
 - ✓ No username or email address
 - ✓ No dictionary terms
 - ✓ Password aging requires users to change their passwords frequently
 - ✓ Prevent password reuse by keeping a log
- ✓ Social media evaluation
- ✓ Correction of Insider Threads
- ✓ Disposal of confidential data
- ✓ Asset Protection for the facility

Verification Plan

A verification strategy is a plan to confirm that the system requirements have been met by providing objective proof. When it comes to building a system, the question is whether the design wholly and accurately embodies the requirements or, in other words, if the system was constructed appropriately. (University of California - Berkeley, 2021)

Most of the system verification may be completed prior to the deployment of a system. Because a Learning Management System has already been developed for this project, a Validation strategy is unnecessary. Again, objective evidence ensures that the produced system effectively achieves its intended goal and satisfies the user needs it was designed to answer; this is known as validation. Instead, verification seeks to assess whether the correct system has been constructed. The vendor of the LMS system has already completed a system validation. (University of California - Berkeley, 2021)

A. Feedback Plan: It can increase overall productivity by providing project team members with performance comments. System performance feedback is given to them regularly to evaluate how effectively each team member is working toward pre-established, measurable goals and objectives. (University of California - Berkeley, 2021)

In addition to offering positive and encouraging comments, the emphasis should be placed on identifying shortcomings and areas of performance that require attention or development. An effective communication strategy was designed for the Learning Management System (LMS) project to solicit, collect, and organize project feedback.

Communication is essential for project success. The project manager has two key groups to maintain clear and effective communication, the stakeholders and the project team. (University of California - Berkeley, 2021)

The construction of a RACI chart was required to convey and seek project feedback effectively to the right stakeholders and efficiently at the right time. A RACI chart (RACI matrix) specifies roles and responsibilities, ensuring that nothing slips through the holes in the system. RACI charts also help avoid misunderstanding by clearly identifying who is responsible for duties and decisions. (RACI Charts, 2020)

Pre-implementation project feedback: Before implementation, a thorough methodology guarantees that the organization completes all-important preparation actions. The goal is to guarantee that the new system satisfies stakeholders' expectations and that required controls are implemented. A multi-part assessment procedure is developed to determine which LMS provider would be evaluated for bids. (Idaho State University, 2007)

Alternatives are being studied in the following areas (Idaho State University, 2007):

- ✓ Preferences & Concerns of trainers and students
- ✓ Capability to assist students, courses, and program assessments
- ✓ Technical and customer service problems
- ✓ Monetary considerations

Moodle, Docebo, and SmarterU were chosen for exams and quotes based on the findings of the first evaluation phase.

Initial LMS Selection Process/feedback: The first selection process/feedback is utilized to choose the pilot project's single LMS. (Idaho State University, 2007)

The following categories are considered (Idaho State University, 2007):

- ✓ User Preferences: The first step entails a series of focus group meetings with stakeholders ranging from low- to high-level use and experience. An LMS will be chosen for piloting a "real" course based on feedback from those sessions. A demonstration of the three products is presented, along with relevant access for each product to be explored alone. All stakeholders are obligated to provide their perspectives on educational topics (e.g., functionality, ease of use, etc.) after the pilot runs

The input criteria for stakeholders are based on the following student needs (Idaho State University, 2007):

1) Features List:

- Login/Logout
- Content Management
- Announcements
- Evaluations
- Grading

2) Interface:

- Distinctiveness
- User-friendliness
- Interface consistency
- Double/Single clicks
- Browsing

3) Technical difficulties connected to learning:

- Cross-platform

- Robustness
 - Plug-ins - Browser support
 - ✓ Assessment Requirements: The LMS Coordinator will also be given a chance to explore the three choices in detail
 - ✓ Technical and Support Concerns: The IT team is responsible for investigating various technical and support issues that participants in the focus groups raised. These include challenges relating to the transfer of courses and material to the new system, support for a range of platforms, browsers, and other software, and the simplicity with which the staff can help
 - ✓ Considerations regarding finances: The costs connected with each of the three LMS choices are calculated for the first and third years of expenses. Costs for new gear, employees, and licensing fees or allowances for software community assistance are the primary emphasis of these expenses
- LMS Administrators and Trainers (Idaho State University, 2007):

1. Features List:

- a. Login/Logout
- b. Content Management
- c. Announcements
- d. Evaluations
- e. Gradebook

2. Interface:

- a. Distinctiveness

- b. User-friendliness
 - c. Interface consistency
 - d. Double/Single clicks
 - e. Browsing
3. Technical difficulties connected to learning:
- a. Cross-platform
 - b. Robustness
 - c. Plug-ins - Browser support

Additionally, while using an LMS, trainers may use a reflection process that consists of a series of open-ended questions to help them better understand their students. (Idaho State University, 2007) This list of issues should include, but not be limited to, the following (Idaho State University, 2007):

- ✓ Time required to move information from one application to another
- ✓ Time required to get familiar with the new product
- ✓ The capacity of students to move around the learning environment
- ✓ Provider's level of customer service for the LMS system

Post-implementation feedback: In addition to determining whether the data has been migrated, it is necessary to ensure that the functionality of the produced system matches the specifications and business needs. To score each aspect of the evaluation, participants use a Likert scale with four levels (Does not meet, Meets, Exceeds, and Superior) to indicate how well they did. LMS administrators and other stakeholders show their understanding of each concept. (Idaho State University, 2007)

- Assessment Criteria: The feedback emphasizes six areas of gathering and reporting student learning that is addressed in the feedback (Idaho State University, 2007):
 - Exceptional course-level evaluation
 - Assessment at the programmatic level is a possibility
 - Capabilities for reporting
 - Possibility of assisting students in their evaluation of teaching
 - Possibility of providing help for periodic departmental evaluations
 - Management and distribution of content (standards, evidence)
- Support Issues: The IT Manager and support personnel must define the exact assessment tools that will be used based on the support difficulties encountered while students are using an LMS. Each assessment category is graded on a four-point Likert scale (does not meet, meets, exceeds, and exceeds superior). (Idaho State University, 2007)

There are seven areas of gathering and reporting trainers and student assistance requirements that are covered by the feedback (Idaho State University, 2007):

- (i) Course and content migration:
 - 1. Tools/utilities/process
 - 2. Faculty users-friendly
 - 3. Help and support features
 - 4. Reference sites support
- (ii) Extraction of content
- (iii) Providing personnel with training and assistance

1. "Train the trainer" onsite/online
 2. Retraining
 3. New training development
- (iv) Training/assistance for trainers/departments
1. Uncomplicated Retraining
 2. Overview
 3. Progressive Training
- (v) User-friendliness
1. Platforms, browsers, plug-ins (Mac, PC)
- (vi) Staff-friendliness
1. course design
 2. application administration
 3. application support
 4. distributed administration
- (vii) Solo-sign-on access
1. Subscription services

A. Criteria:

The "SMART" Feedback approach will be employed in this project, and it will be used throughout the process. The "SMART" abbreviation is "Specific, Measurable, Achievable, Realistic, and Time-bound." When developing SMART goals, these rules ensure that people have a specific target to achieve in a certain amount of time. (Rubin, 2007) The following criteria are considered:

- Provide accurate deliverable estimates during the first two months of project implementation and throughout the next six months after project implementation.
- Internal reviews and automated test scripts reduce the number of mistakes and rework.

If a deliverable is late, it delays other jobs and activities, raising costs and timetables. The message in corrective feedback will be less effective without describing the repercussions of inferior performance. (Rubin, 2007) Furthermore, positive feedback must include the beneficial impact of a team member's actions. The SMART feedback is (Rubin, 2007):

- Specifiable (simple, sensible, significant)
- Measurable results (meaningful, motivating)
- Achievable (agreed, attainable)
- Realistic (reasonable, resourced, results-based)
- Timing-bound (time/cost-limited, and time-sensitive)

B. Test Cases:

- a. User Acceptance Testing (UAT) is manually testing for user experience (UX). Learners and instructors are the two primary user groups interacting with a learning management system. (Joseph, 2020)

When generating strong test cases for an eLearning website, the LMS testing team should keep this in mind while developing strong test cases for an LMS. For the LMS, the testing team should be provided with comprehensive documentation that clearly defines all objectives and needs; this will allow them to

assess the user experience across user groups and highlight areas where additional development is necessary. (Joseph, 2020)

Testing focuses on (Joseph, 2020):

- The intuitiveness of the teacher dashboard
- The simplicity with which modules may be added, updated, and removed
- The success with which course contents are loaded quickly and without mistakes
- The ability to load huge media assets (such as podcasts, PDFs, and movies) without the contents being broken up into smaller pieces
- The option to analyze data and generate reports
- The ability to retrieve completed tasks without encountering any difficulties
- The test results deliverability and graded assignments to students who have registered for the course

Test cases centered on the learner's user experience are included. The number of test instances should be about (Joseph, 2020):

- The ease with which the learner dashboard may be used
- The consistency with which module structure and design are implemented
- The ease with which course resources, such as reading materials, projects, and assignments, are accessible
- The LMS's accessibility for all sorts of learners
- Collaboration on needed elements such as assignments, tasks, forums, or group projects

- Interaction with other learners online using a learning management system (LMS)
- b. Test cases for a content management system may be automated, resulting in more insightful findings over a more considerable number of test cases. Automated system checks are performed frequently throughout the development and testing process, resulting in enhanced test efficiency, better product quality, and shorter deliverable release. (Joseph, 2020)

Automated system checks (Joseph, 2020):

- ✓ Develop and implement an automation framework that defines a set of norms and regulations to be followed by the team when creating, designing, and executing automated test case scenarios
 - ✓ Select continuous integration technologies that allow IT testers to automate each crucial test case
 - ✓ Decide on the development languages used to automate test cases to ensure that the company's automated system checks are consistent across projects and development cycles
 - ✓ When doing automated system checks, choose a build and release management system built to support the IT team's build, test, and release procedures and their automated system checks
- c. Mobile Application Functionality, Usability, and Consistency Testing: A learning management system that cannot provide content across devices will not give a successful online experience for all users.

A sound learning management system (LMS) has a mobile responsive design so that the online learning platform may be accessed from any mobile device regardless of its make or model. However, the success of this responsiveness is only as good as the number of successfully run test cases for an e-learning website that proves its compatibility. The eLearning team may undertake manual and automated testing to ensure that the system is compatible with several platforms. Testing the mobile application ensures that the LMS functions effectively across all operating systems and screen resolutions. (Idaho State University, 2007)

Test cases on all devices and browsers (Idaho State University, 2007):

- ✓ The software functionality
- ✓ Optimization of performance
- ✓ Testing on a touch screen
- ✓ Performance in terms of accessibility
- ✓ API (Application Programming Interface) functionality
- ✓ Visualization and simulation
- ✓ Application patch testing
- ✓ Inspection and verification of the installation
- ✓ Validation of the graphical user interface

- d. Security Testing: Data integrity testing will be performed after LMS integration. Cybercrime appeals to booming enterprises. Moreover, as online learning grows in popularity, so does its appeal to hackers and cybercriminals, given that learning management systems include sensitive student and instructional data. (Idaho State University, 2007)

Any learning management system (LMS) security breach threatens the reputation of institutions and the trust of their clientele. eLearning teams oversee protecting data from cyber threats, internet criminals, and fraudsters. Automated testing of the content management system's security can assist it in achieving this aim. (Idaho State University, 2007)

F-SECURE must create test cases for the e-learning website that avoid security threats like hacker attacks considering the following (Idaho State University, 2007):

- Vulnerability scanning - An attacker can exploit a network vulnerability to destroy network assets, cause a denial of service, or steal potentially sensitive data. In addition to uncovering new vulnerabilities, threat actors are continually looking for previously exploited vulnerabilities that have gone unpatched for a long time. Individuals, groups, organizations, or even entire nations can be threatening actors in a cyberattack; this is important because cyberattacks cause financial losses and system disruptions. (Dosal, 2020)
- Security scanning - Companies must stay up with new security technologies, security updates, and threat actors' tactics, methods, and processes to improve cybersecurity company protection. (Infosec Resources, 2021)
- Phishing testing - Allow users to report suspicious emails and produce detailed reports to hunt down troublemakers. (Infosec Resources, 2021)

- Posture assessment - The security posture refers to its overall cybersecurity readiness. IT should compile a complete inventory of every device with access to the corporate network or data. (Balbix, 2022)

Maintaining a security posture requires an accurate asset inventory. Management and auditing of corporate inventory are a baseline need in most security regulations, including HIPAA (Health Insurance Portability and Accountability). Possessing a current asset inventory ensures that the organization can maintain track of the hardware it currently uses. This data collecting procedure makes identifying technology gaps and refreshes cycles easier. (Balbix, 2022)

- Security auditing - A security audit compares the organization's information system security to a checklist of industry's best practices, externally set standards, or government regulations. (AuditBoard, 2022)
- Risk assessment - Risk identification, assessment, and mitigation identify and assess security threats to an organization. IT risk management strives to prevent security breaches and compliance lapses. Since no company can discover and eliminate all cybersecurity risks, IT professionals must use security risk assessment to target their efforts. (NetWrix, 2020)
- Ethical hacking – Hacking is accessing a computer system, application, or data without prior authorization. Ethical hacking is safely recreating hostile attackers' tactics and actions. This method assists in identifying security flaws that can be repaired before a hostile attacker may exploit them. (Synopsys, 2021)

- Users/Passwords/Systems needs and password attack mitigation

(University of Houston Clear Lake, 2022):

- Passwords must contain capital, lowercase, digits, and symbols
- Have a minimum of eight characters
- Do not include a username or email address
- Do not include dictionary terminology
- Passwords should be updated every 30 days (about four and a half weeks), if feasible
- Passwords that are too complex or changed too frequently may pose security issues
- Passwords must not be written down
- Keep track of passwords to avoid reusing
- Multifactor authentication required
- Examine computer systems for an excessive number of failed login attempts
- Account lockout should be enabled to restrict access after many incorrect passwords
- Monitoring the network or machine for the sniffer and password-stealing software
- Default Domain or Local Security Policy
- Domain-wide password policies for all computers

- e. Performance Testing: It is essential to do performance testing to ensure responsiveness and stability. If the LMS is not prepared to increase traffic and

performance needs, it may experience software crashes. The eLearning testing team should include test cases for the eLearning website specific to the system to ensure the system's performance. Performance testing of the content management system can be assessed if it runs as anticipated across devices and network speeds. It is advisable to conduct performance tests to examine memory, bandwidth, throughput, reaction time, and interruptions. (Idaho State University, 2007)

Project Closure

1) Postmortem Summary

This project mandated formal security awareness training for all new employees, contractors, and internal and external customers (usually annually). Members' understanding and attitude toward the security of an organization's physical and, more importantly, information assets. (Valenzuela, 2022, p. 1-4)

A web-based training program was selected and implemented after a series of successful pilots and user/trainer feedback (See Appendix B, Appendix C, and Appendix D). That includes, but is not limited to, the Web-Based Training program, administered via a Learning Management System, an online tool used to plan, execute, and assess a learning process. eLearning software helps with administration, documentation, tracking, and recording. Learning Management Systems (LMS) facilitate online collaboration. (Valenzuela, 2022, p. 1-4)

a) Methodologies:

This project compared two Agile techniques, Kanban and Scrum. This project was executed using Kanban. Kanban is a flow-based system that allows the team to quickly prioritize new work without affecting the project schedule, cost, productivity, stakeholder motivation, or quality. (Pluralsight, 2019)

Kanban's main benefit is its ease of use. Its adaptability allows it to be easily integrated into existing processes seeking an agile workflow. Effective Kanban teams are not cross-functional. An engineering team, a testing team, and an operations team are often, but not limited to, part of a Kanban team. (Pluralsight, 2019)

Scrum is a widely used agile methodology. Scrum is a "framework" because it combines daily development operations. Scrum does not impose any specific development practices but encourages the team's best practices. (Pluralsight, 2019)

Scrum, unlike Kanban, teams organize their work into "sprints." Sprints are usually two weeks long but can be one to four weeks. One disadvantage of Scrum is that it prevents changing direction mid-sprint. The teams must wait at least two weeks before shifting their focus and goals. (Pluralsight, 2019)

A two-week delay before a modification may not be an issue with a solid release plan. The Kanban technique was the best fit for this project because the goals of the IT and HR teams change daily. (Pluralsight, 2019)

b) Method Evaluation

An extensive evaluation was conducted. Exams and quotes were chosen for Moodle, Docebo, and SmarterU. Concerns and preferences of users (instructors/admin and students/users), ability to support students, course, program assessments, technical support, and financial issues were considered.

Docebo was chosen for the pilot project after a comparison of the options. The pilot project allowed users, admin, and trainers to test the LMS in a production setting to ensure it met business needs. The LMS administrator volunteered to do a Docebo draft of the Training Policy. Stakeholders enrolled in the Docebo-piloted course and were polled on Docebo's suitability for online and hybrid courses. Pilot participants provided data to support the final LMS selection. (See Appendix F, Appendix G, Appendix H, and Appendix I)

c) Risks and Mitigation

A qualitative risk analysis was used for this project. Because the nature of identified risks makes qualitative risk analysis more subjective than quantitative risk analysis, it is not used for risk classification in this project. The qualitative analysis was chosen because it focuses on identifying risks to assess the probability of a specific risk event occurring during the project life cycle and its impact on the overall schedule. (Project-Management.com, 2021)

The following risks were ranked in order of likelihood and potential impact on this project:

Risk 1: Change Control clearance for relevant deliverables is not acquired within the specified period.

Risk 2: The Project Charter will not be authorized in the allotted time.

Risk 3: Failure to create and publish a Gantt chart within the period allotted.

It is possible that obtaining project sponsors' and stakeholders' signatures on deliverables will take longer than anticipated. This decision delay will impact the progress timetable.

The project deliverables approval procedure must be completed in the allotted time to keep the project on track and deliverables on schedule. Delays in the approval or distribution of any deliverable can annoy customers, increase costs, increase risk, and change resource allocation. Change Control, for example, approves the Project Charter's starting, which includes stakeholders, project goals, and reasons for requesting money and support; hence, delays in

its approval cause delays in the project's start, scope, plan, budget, and resource allocation. (Project-Management.com, 2021)

The Project Charter arose because of the failure to accept a Change Control; thus, its delay in acceptance implies that the project cannot begin, that the budget has not been allocated or approved, that resources are not adequate, and that there is no high-level scope to support the project's launch. As a result, there is a genuine potential of not having a project. (Project-Management.com, 2021) If this risk is not handled, it will have ramifications for the project in terms of the triple constraint as follow:

- Cost: If the Project Charter is not approved within the stipulated period, the project provided will not begin. A budget or financial allocation does not support the project's cost and resources.
- The Project Charter is the primary document that initiates the project. Delays in approval harm the project's timing, planning, and effort to complete it on time and under budget.
- Project Charter approval delays harm the project because it includes a high-level scope description required to develop the Scope Management Plan, Work Breakdown Structure, Requirement Documentation, Project Management Plan, and other necessary documentation that contributes to the project's success on-time completion.
- Delays in Project Charter approval may affect product quality because if the document is not approved within the allotted time,

scheduled work will have to shift, putting pressure on stakeholders to complete deliverables in a shorter period, jeopardizing product quality and customer complaints and unnecessary product rejects.

(Project-Management.com, 2021)

Risk Mitigation:

A short but persuasive reason for the modification is mandatory to approve project deliverables appropriately. Justification and the correct approvers are the keys to a successful project deliverable approval and on-time delivery. (Team Asana, .2021)

The project will benefit from the mitigation strategy to reduce implementation delays by selecting only trained individuals affected by the change for project deliverable assessment and approval. The RACI Chart (Responsible, Accountable, Consulted, and Informed Chart) is a crucial document that should be used to meet project deadlines. A RACI chart can determine which stakeholders are responsible for delivery approval and document release according to the project schedule. (Project-Management.com, 2021)

The Change Control document is the best way to get the project and its deliverables out. Having a purpose for starting a Project Charter will provide the scope, project objectives, and other pertinent project justification and business needs, allowing it to be accepted faster. Furthermore, a well-defined RACI chart specifies only the stakeholders or department owners whom the change will impact, and the project calendar identifies the approval timeframe.

The potential of delivery approval delays is lessened with these technologies in place. (Team Asana, .2021)

2) Project status

a) Objective

The goal of the status meeting is to determine the current state of the F-SECURE Security Awareness Project. This exercise aims to take stock of what has already been accomplished, identify what needs to be completed, and identify potential barriers or challenges. The goal of status meetings is to ensure that a construction project stays on schedule and provide team members with the opportunity to intervene if difficulties arise.

b) Issues

While the answers from LMS administrators to Docebo were positive, it is essential to highlight that the IT department strongly believes that Moodle, with its open forum, would be a better alternative; this is especially true among stakeholders who are already familiar with the concept of a collaborative platform.

Moodle has developed several unique functions that enable students to enjoy high-quality learning experiences. So Docebo may force these programs to adopt new methods of completing the same activities to comply with its requirements. IT is dedicated to aiding these programs in achieving the same level of competence and functionality in Docebo as they presently have in Moodle.

Some of the issues found during the pilot can be resolved by a mix of "add-ins" already available in Docebo and further training given by the system at no additional expense. Others will require further investigation.

Some stakeholders, for example, found the management of email communication within Docebo to be unsatisfactory. However, at least two choices can significantly improve the functionality of the email system. Other issues, such as the lack of grade book capabilities, are also addressed, at least in part, by contributed modules that have not been fully developed.

It is advised that all impacted stakeholders contribute by making recommendations about improving Docebo to satisfy corporate objectives to address additional and future needs. A monthly meeting will be held to determine the importance of the modifications that need to be implemented in Docebo and to set priorities for those changes. On the other hand, any changes must be evaluated and approved through a Change Control process before implementing in Docebo.

In the struggle against cybercrime, Docebo, like any other learning management system, is not the perfect solution for F-SECURE, but it provides many more alternatives and chances to design a better solution that satisfies business requirements. A critical factor in determining the success of Docebo will be our commitment to course redesign and new pedagogical realignment in conjunction with web-based course activities. As illustrated in this paper, Docebo can be logically regarded as a long-term solution for F-SECURE security concerns.

c) Alternative/Recommendations

Based on the information gathered from pilot run feedback, the most recent version of the Docebo application will be placed on a small production server to give a prototyping course with an environment in which to begin the evaluation process for the course. The server will be housed under Information Technology Services, responsible for supporting the system's operating system, hardware, and telecommunications infrastructure.

For the prototyping stage, the IT department will use its limited resources to install and maintain the Docebo software, which the IT department will manage. As a result of this project proposal, a request for the creation of an LMS Administrator / Database Administrator post was made and authorized to support future efforts to meet the mission requirements of the LMS. This position will be responsible for compiling reports from stakeholders that have agreed to participate in the evaluation research. The success (or failure) of our chosen Learning Management System in developing courses during business hours will determine the future path of web-based instructional technology tools given by our organization.

The information gathered will offer the relevant evaluation information necessary to make future LMS upgrades investments. As a result, our IT department will report on the prototyping process and make recommendations to the company on whether we should move all current paper-based training to the Docebo LMS or whether we should continue our investment in a single training content that is exclusive to this project objective, namely, our Security

Awareness Training policy and applicable procedures to mitigate the possibility of cybercrimes.

d) Communication

Only stakeholders identified on the RACI chart will receive project status updates. Project status updates follow the company's project reporting system; project status must be demonstrated via visual representation only (See Appendix J, Appendix K, Appendix L, Appendix M, Appendix N, Appendix O, Appendix P, Appendix Q, and Appendix R). Per the approved project's RACI chart, reports must be distributed to affected personnel (See Appendix A).

To Date Earned Values – Utilizing Earned value Management determines how far a project has strayed from the approved project plan and then analyzes that deviation. The following analysis demonstrates that the F-SECURE project is ahead of schedule and within budget constraints.

EVM report is as follows:

Project overview (See Appendix E)

- Total budget: \$30,000.00
- Actual cost (AC): \$16,465.00
- Earned value (EV): \$26,100.00
- Planned value (PV): \$21,000.00

Cost

- Cost performance index (CPI): 1.597
- Cost variance: 37.68%

Conclusion: under budgetSchedule

- Schedule performance index (SPI): 1.243
- Schedule variance: 24.29%

Conclusion: ahead of schedulePredictions

- Estimate to complete (ETC): \$2,442.36
- Estimate at completion (EAC): \$18,787.36
- Projected budget overrun: \$11,212.64 under budget

3) Future Enhancements

It is possible to fix some of the issues raised by LMS administrators during the pilot by utilizing a combination of "add-ins" that are already available in Docebo (but not currently deployed in our installed instance) and extra training. The management of email communication within Docebo, for example, has been criticized by some users as being unsatisfactory. Nevertheless, at least two options have been submitted to the Docebo community that can significantly increase the usefulness of email messages.

Other issues, such as the lack of grading capabilities, are also solved, at least in part, by contributed modules that we have not yet put into place. As a first step in addressing additional and future requirements, we recommend that IT evaluate proposals made by LMS administrators and appropriate users and determine the priority of improvements that need to be implemented in Docebo.

Students will be able to engage in seminars, informal collaboration, group meetings, sub-chats, and group chats using web conferencing tools in a future LMS.

Gamification has been suggested as an improvement. Gamification guarantees that the student is never bored and is continually driven to finish and move to the next level, much as in a traditional video game. Leaderboards, group boards, and other similar tools instill a feeling of rivalry in pupils, motivating them to win rewards when they meet their objectives. (Creatrix Campus, n.d.)

4) Implementation Support

Planning will be essential for transitioning from paper-based training to Docebo a success. The IT staff will begin offering training and support to LMS administrators and trainers interested in getting started with Docebo as soon as they are hired.

Security Awareness Training policy and appropriate content courses that have been approved and released will be imported into Docebo beginning in the early spring of 2022 and will continue until May of the same year. Trainers may continue to utilize the paper-based system/policy until the project is completed, but they will not be able to do so following the release of the Docebo complete system.

However, migration support will remain until the course has been successfully migrated/created in Docebo. Cybersecurity paper-based training will no longer be given. When Docebo is implemented in all their course offerings using web-based teaching and learning environments, stakeholders will begin to see results in the fall of 2022.

Training compliance and data integrity are critical at F-SECURE; as a result, the systems in place must be closely monitored, and modifications must be verified and approved using a Change Management System. (Zoccali, 2021)

Prioritizing requests helps keep the roadmap organized and moving ahead because an LMS continuously changes and improves. In addition, a high-risk modification would almost certainly necessitate more thorough testing and verification than a low-risk change. Compared to merely a screenshot attachment, the difference could entail a lengthy test script. (Zoccali, 2021)

Change requests can be made willingly by anybody using the LMS, whether they are learners or administrators, or they may be required due to program changes. The reason for the request is the essential criterion in evaluating the priority of a change request and where it falls on the list of enhancements. (Zoccali, 2021)

5) Maintenance Plan

Maintaining the Docebo site in maintenance mode allows the administrator to make the site inaccessible to users while the site is being developed. It is also possible to use maintenance mode while investigating the Docebo web server; this stops users from accessing the site as guests or logging in while the site is under construction.

It is possible to employ a maintenance mode to restrict users other than the LMS administrator from accessing the site while maintenance is being performed; however, this mode is not intended to limit user access during version upgrades.

If a user attempts to access a course when the site is in maintenance mode, the user is presented with a notification stating that the site is in maintenance mode. It is possible to customize and build maintenance mode messages tailored to specific business requirements. For example, a message could include information about when the site will be available again or the reason for performing maintenance.

It is vital to notice that the site's welcome page will appear normal in maintenance mode, which is a nice touch. Users will only see the maintenance mode notification if they attempt to access a course in maintenance mode. While the site is in maintenance mode, non-admin users may be granted access.

6) Appendices

- A. RACI CHART
- B. GENERIC LMS ARCHITECTURE
- C. LMS SYSTEM VIA A MOBILE DEVICE
- D. LOCAL LMS
- E. WBS/SCHEDULING PAGE 1-5 (Blank Pages excluded)
- F. QUESTIONNAIRE/POLL
- G. POLL RESULTS – ADMINISTRATORS
- H. POLL RESULTS – USERS/LEARNERS
- I. ADMIN/USERS COMPARISON RESULTS
- J. PROJECT OVERVIEW
- K. RESOURCE OVERVIEW
- L. WORK STATUS
- M. RESOURCE STATISTICS
- N. REMAINING WORK FOR ALL RESOURCES
- O. OVERALLOCATED RESOURCES
- P. LATE TASKS
- Q. CRITICAL TASKS
- R. MILESTONES REPORT

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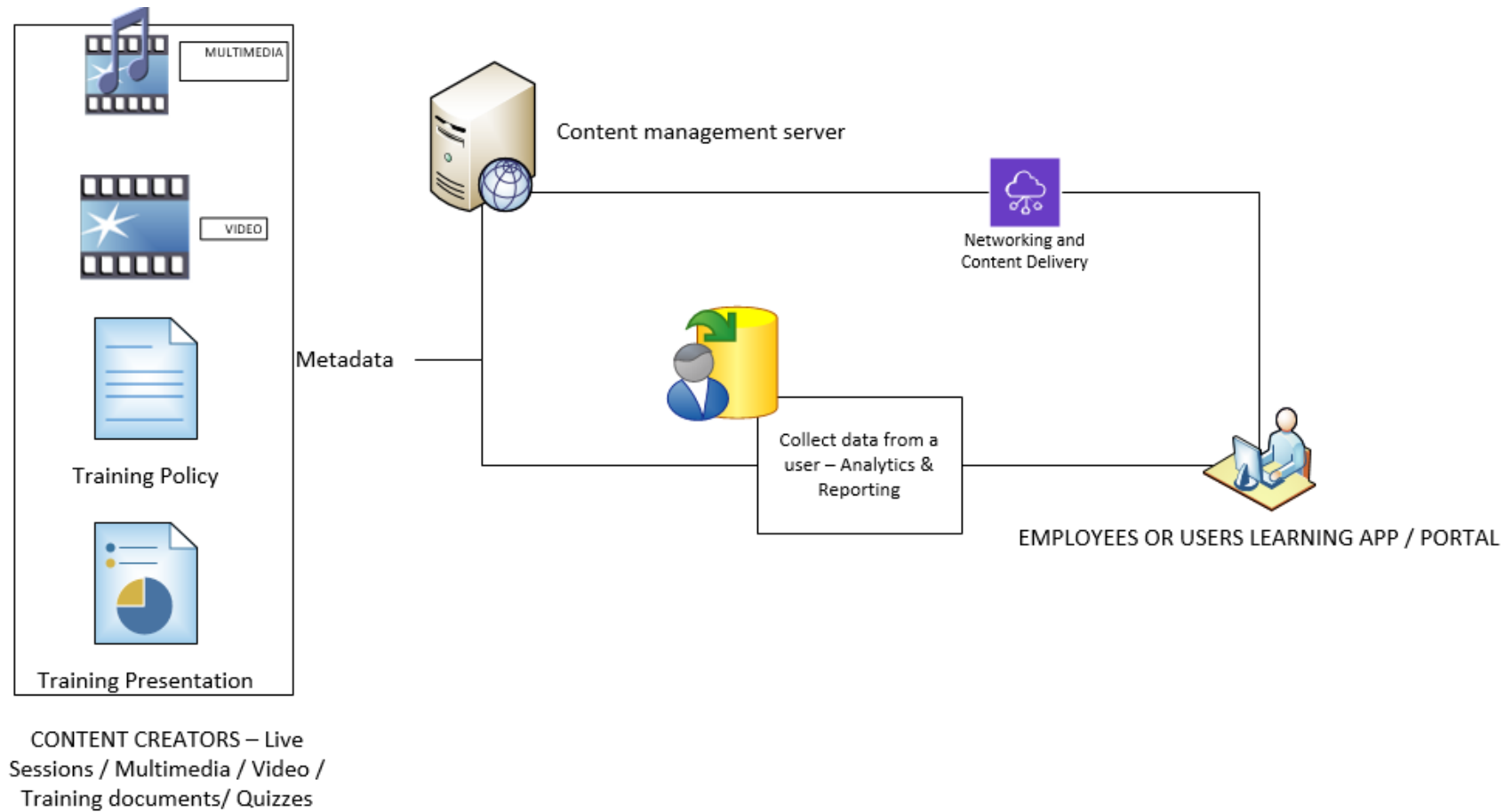
Appendix A

RACI CHART

TASKS	PROJECT ADMINISTRATOR	IT MANAGER	IT SPECIALIST II	IT SPECIALIST I	LMS ADMINISTRATOR	LMS ASSISTANT	SUBJECT MATTER EXPERT
PROJECT STATUS REPORTS	A	R	I	C	C	I	I
PROJECT PLANNING	R	A			I		C
PROJECT MANAGEMENT PLAN	R	A	I	I	I	I	C
RESOURCE PLANNING	I	A	I	R	R		C
TRAINING PROVIDER	I	A	C	R	R		C
TEST CASE	I	A	R	R	R	I	C
FEEDBACK	I	A	C	C	R	C	C
PREPARATION FOR TRAINING	I	A	R	R	C	R	C
TRAINING THE TRAINERS	I	C			A	R	R
PROJECT COMPLETION	R	A	I	I	R	C	C

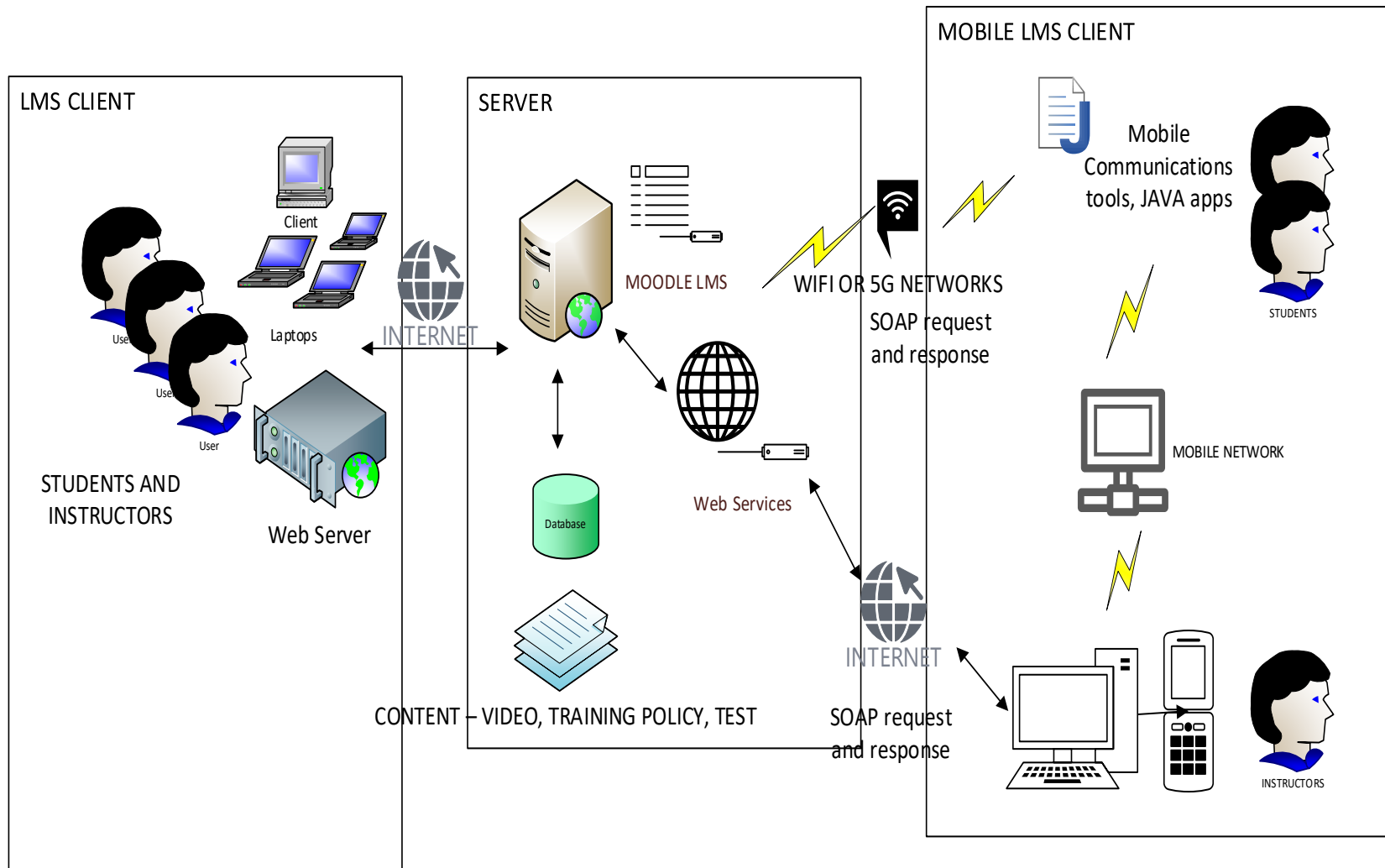
RACI roles (Harned, 2022):

- Responsible: This team member oversees carrying out the necessary tasks to achieve the task. Every work necessitates assigning at least one Responsible party, although it is acceptable to allocate more
- Accountable: This individual delegates work and are the last to review it before the project manager declares it complete. Each job or deliverable is allocated to only one Accountable person to avoid confusion
- Consulted: Every deliverable is reinforced by evaluating and consulting more than one team member on the same project. Participants in the consultation process often give input based on how it will affect their future project work or their domain of expertise on the deliverable in question
- Informed: These team members need to be brought up to date on project developments rather than be forced to create each deliverable

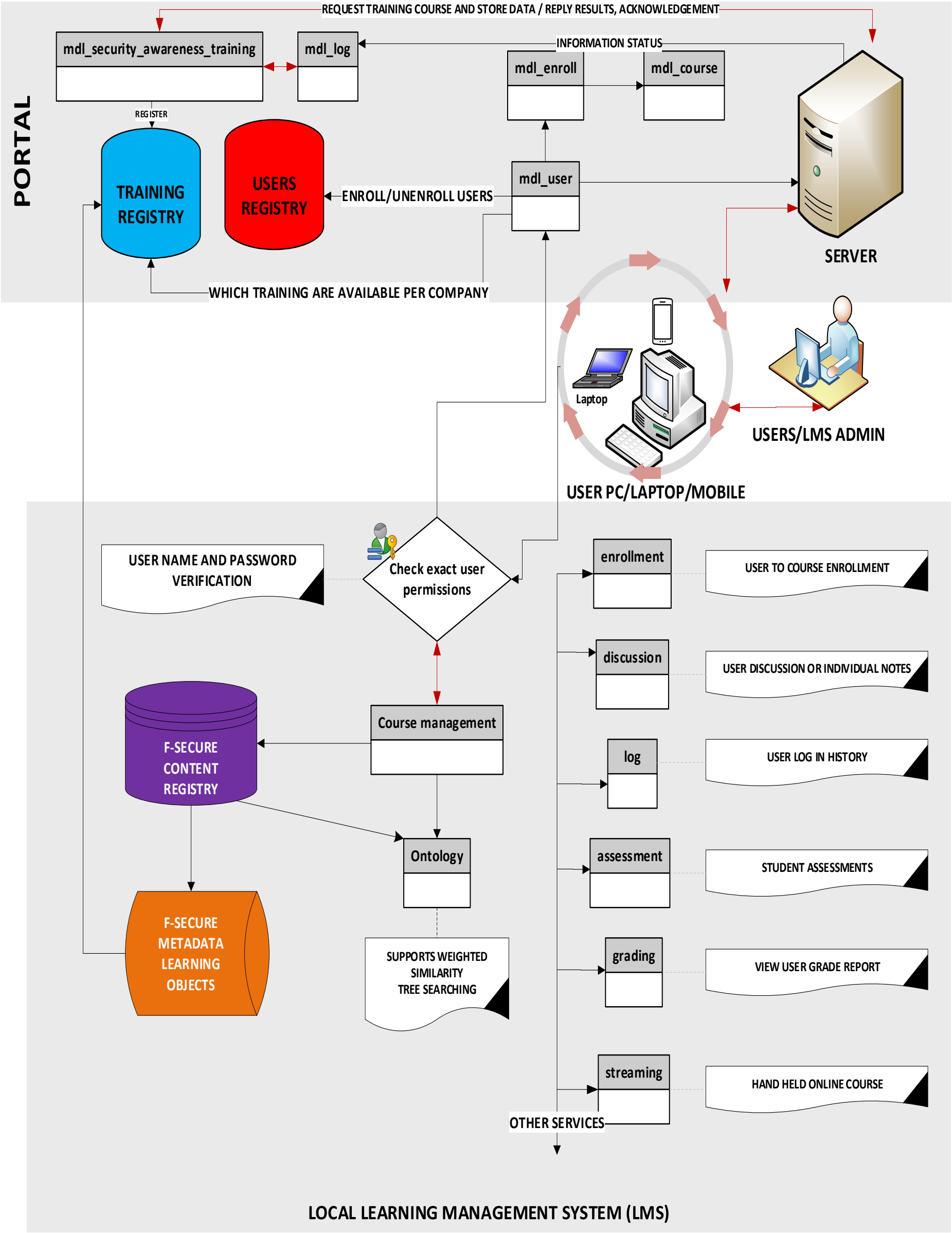
Appendix B**GENERIC LMS ARCHITECTURE**

Appendix C

LMS SYSTEM VIA MOBILE DEVICES

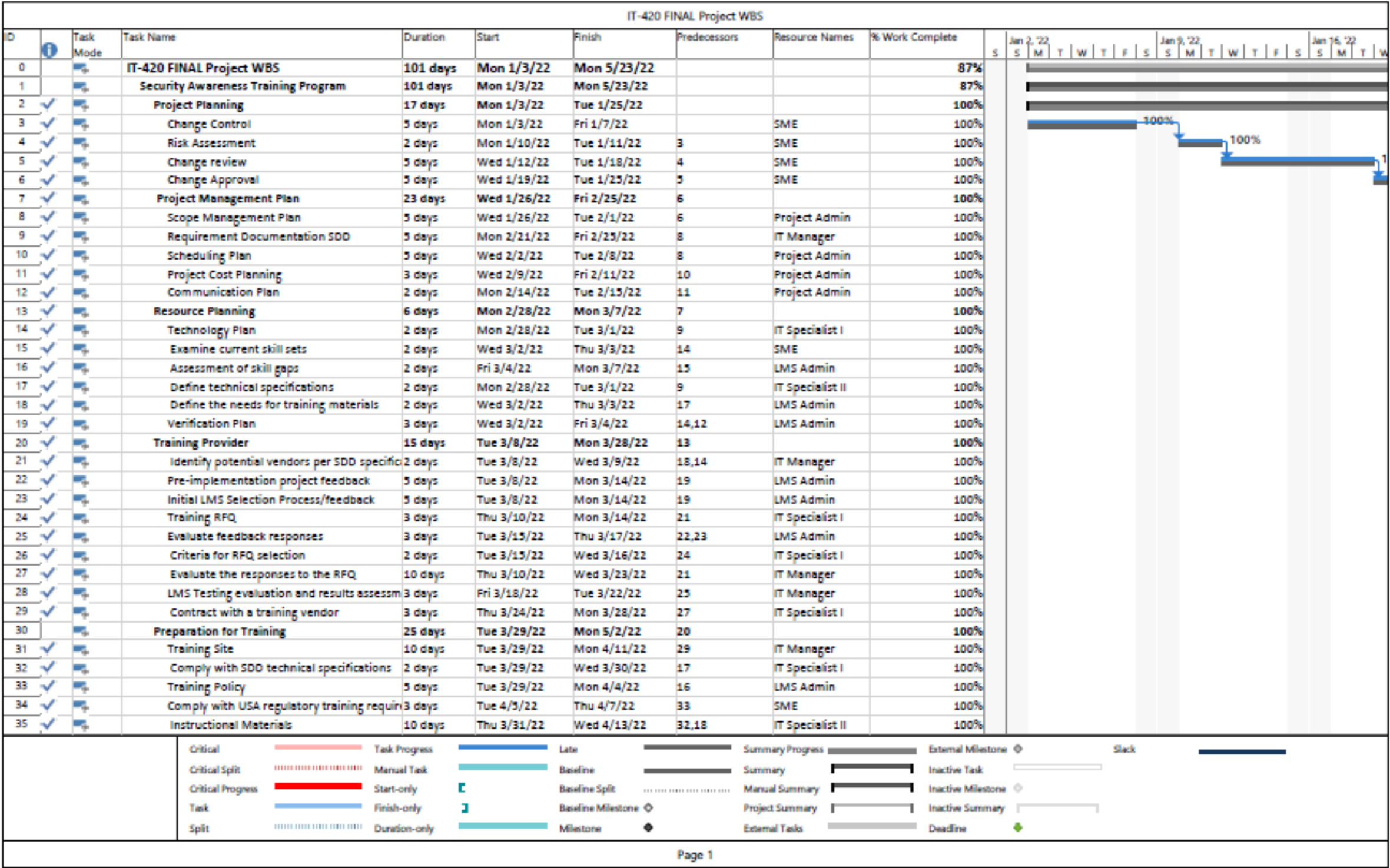


Appendix D
LOCAL LMS



Appendix E

WBS/SCHEDULING – PAGE 1



Page 1

Appendix E

WBS/SCHEDULING – PAGE 2

IT-420 FINAL Project WBS

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	% Work Complete	Jan 2, '22							Jan 9, '22							Jan 16, '22							
									S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
36	✓	Examine and adept training materials	2 days	Thu 4/14/22	Fri 4/15/22	35	IT Specialist I	100%																						
37	✓	Forms for receiving feedback	9 days	Mon 4/18/22	Thu 4/28/22	36	IT Specialist I	100%																						
38		Textbooks and materials	3 days	Thu 4/14/22	Mon 4/18/22	35		0%																						
39	✓	Professors	2 days	Tue 4/19/22	Wed 4/20/22	38	IT Specialist II	100%																						
40	✓	Training Schedule	2 days	Thu 4/21/22	Fri 4/22/22	39	LMS Assistant	100%																						
41	✓	Conference Rooms Reservations	1 day	Mon 4/25/22	Mon 4/25/22	40	LMS Assistant	100%																						
42	✓	Training notification	3 days	Tue 4/26/22	Thu 4/28/22	41	LMS Assistant	100%																						
43	✓	Catering	2 days	Fri 4/29/22	Mon 5/2/22	42	LMS Assistant	100%																						
44		Training the Trainers	5 days	Tue 5/3/22	Mon 5/9/22	30		30%																						
45		Training Coordinators	5 days	Tue 5/3/22	Mon 5/9/22	40	SME	30%																						
46		System administrators	5 days	Tue 5/3/22	Mon 5/9/22	31	LMS Admin	30%																						
47		System Users	5 days	Tue 5/3/22	Mon 5/9/22	31	LMS Assistant	30%																						
48		Project Completion	10 days	Tue 5/10/22	Mon 5/23/22	47		0%																						
49		Post-implementation feedback	5 days	Tue 5/10/22	Mon 5/16/22	47,19	LMS Admin	0%																						
50		Lessons learned from the project	5 days	Tue 5/17/22	Mon 5/23/22	49	Project Admin	0%																						

Critical

Critical Split

Critical Progress

Task

Split

Manual Task

Start-only

Finish-only

Duration-only

Late

Baseline

Baseline Split

Baseline Milestone

Milestone

Summary Progress

Summary

Manual Summary

Project Summary

External Tasks

External Milestone

Inactive Task

Inactive Milestone

Inactive Summary

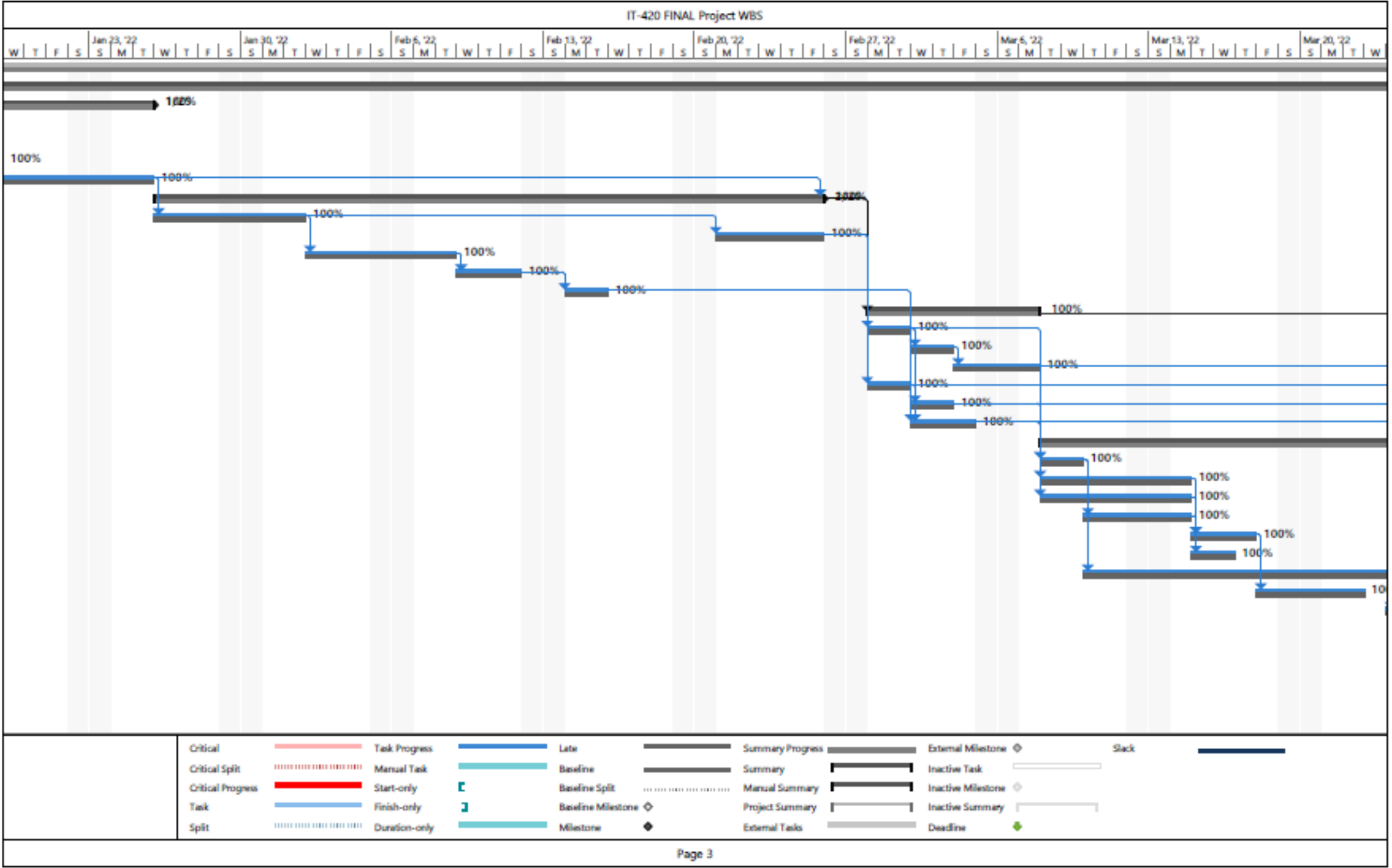
Deadline

Slack

Page 2

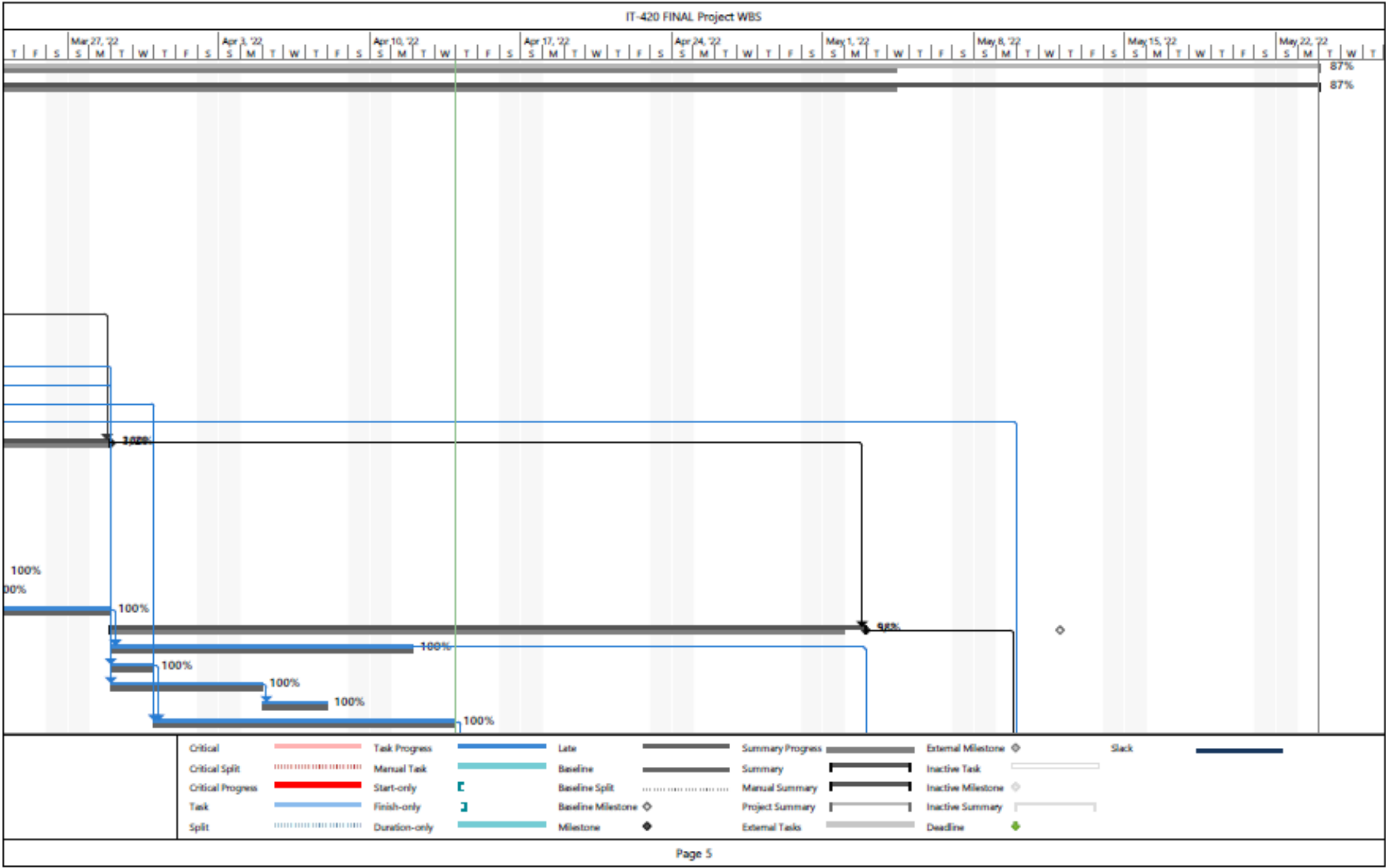
Appendix E

WBS/SCHEDULING – PAGE 3



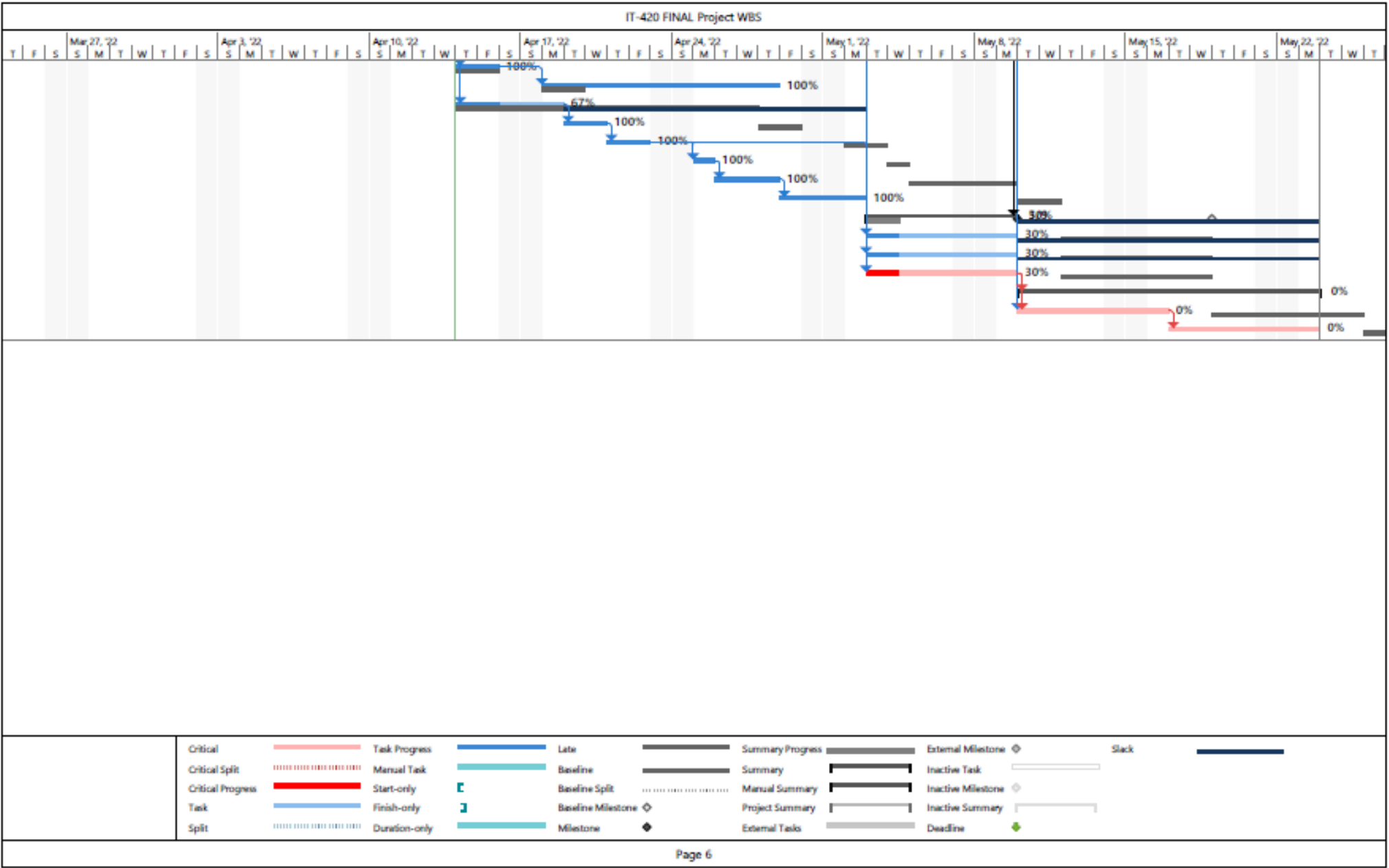
Appendix E

WBS/SCHEDULING – PAGE 4



Appendix E

WBS/SCHEDULING – PAGE 5



Appendix F

QUESTIONNAIRE/POLL

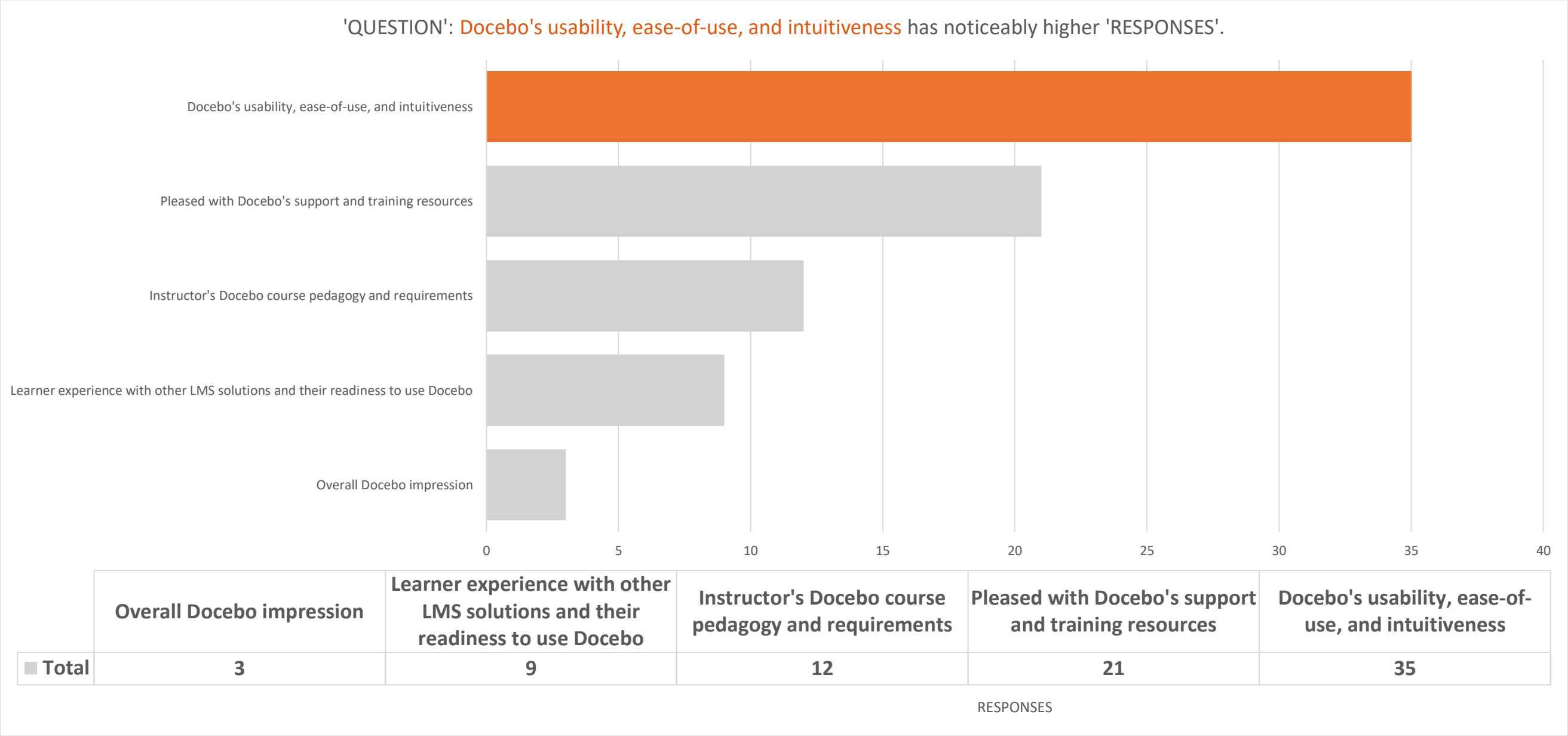
1. I am familiar with computers.
2. I can quickly switch between tasks in Docebo.
3. I had no problems completing class tasks in Docebo.
4. Docebo's assessment tools are easy to use.
5. Docebo's communication features are easy to use.
6. Docebo's Help information was helpful.
7. Before taking this online course, I used web-based course software (WebCT, Blackboard, etc.).
8. I like Docebo over other LMS apps (e.g., WebCT, Blackboard, etc.).
9. A Docebo training session would have helped me in this class.
10. Docebo made it easy to see my grades.
11. Docebo was easy to use.
12. The instructor used Docebo well.
13. Overall, I would use Docebo again.
14. Overall, I will not use Docebo again; instead, I use paper-based training
15. Docebo made the course structure and sequence clear.
16. What do you think of Docebo?

Polled stakeholders were: 5 Administrators = IT Manager, LMS Administrator, LMS Assistant I, LMS Assistant II, IT Associate, and 5 Employees/Learners/Users

Appendix G

POLL RESULTS – ADMINISTRATORS

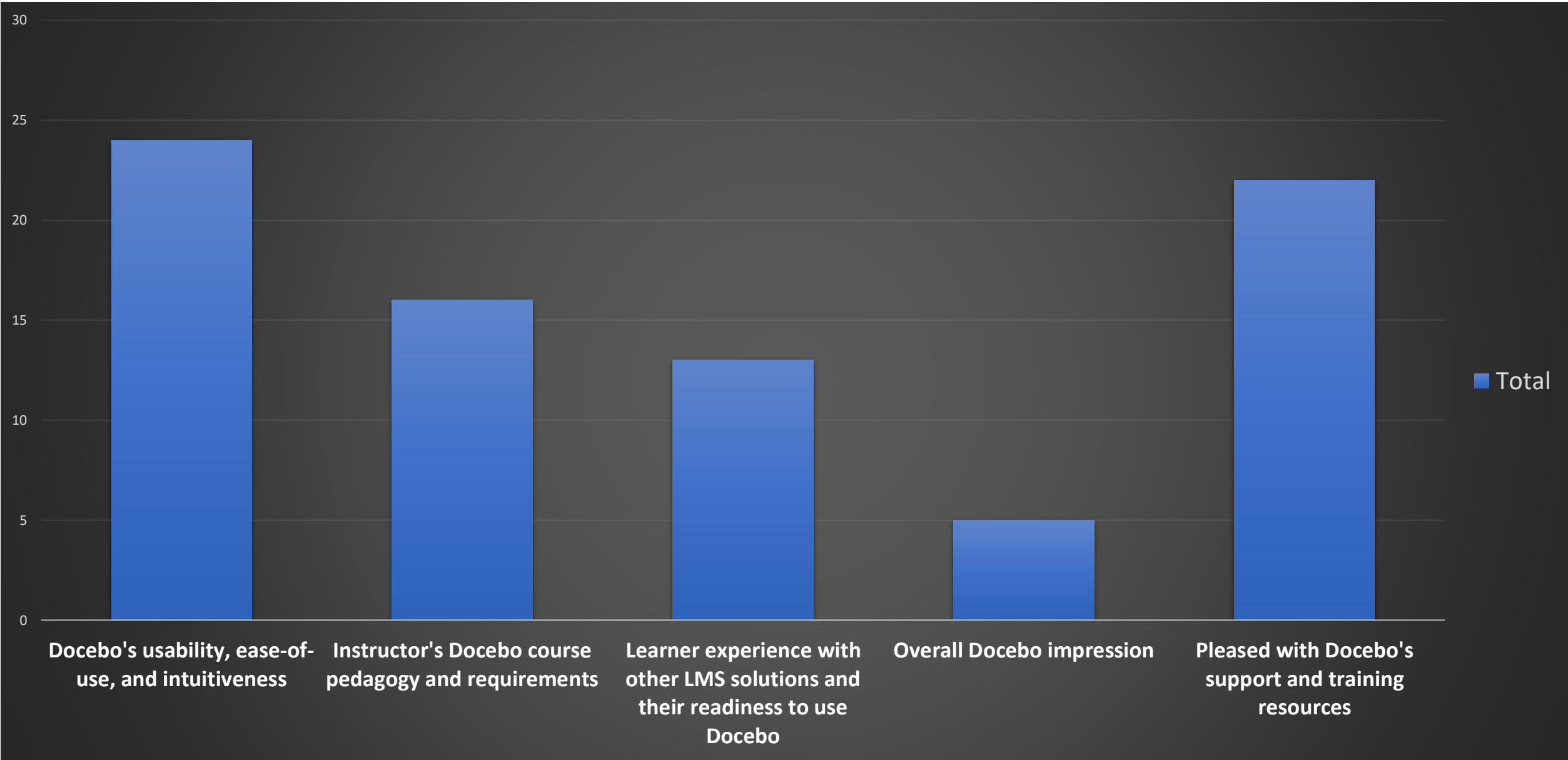
Row Labels	Sum of RESPONSES
Docebo's usability, ease-of-use, and intuitiveness	35
Pleased with Docebo's support and training resources	21
Instructor's Docebo course pedagogy and requirements	12
Learner experience with other LMS solutions and their readiness to use Docebo	9
Overall Docebo impression	3
Grand Total	80



Appendix H

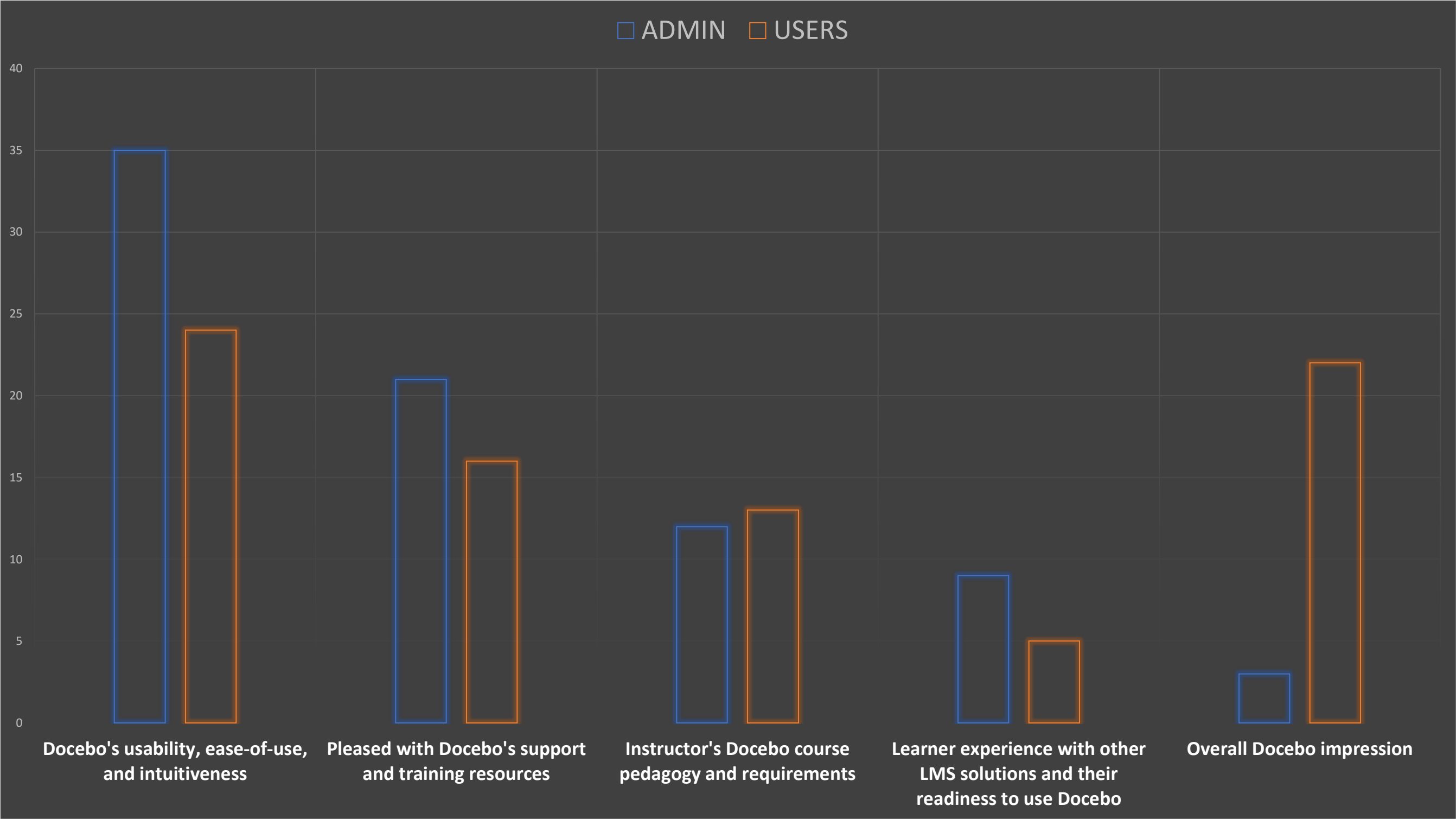
POLL RESULTS – LEARNERS/USERS

Row Labels	Sum of RESPONSES
Docebo's usability, ease-of-use, and intuitiveness	24
Instructor's Docebo course pedagogy and requirements	16
Learner experience with other LMS solutions and their readiness to use Docebo	13
Overall Docebo impression	5
Pleased with Docebo's support and training resources	22
Grand Total	80



Appendix I

ADMIN/USERS COMPARISON RESULTS



Appendix J

PROJECT OVERVIEW

PROJECT OVERVIEW

MON 1/3/22 - MON 5/23/22

% COMPLETE

87%

MILESTONES DUE

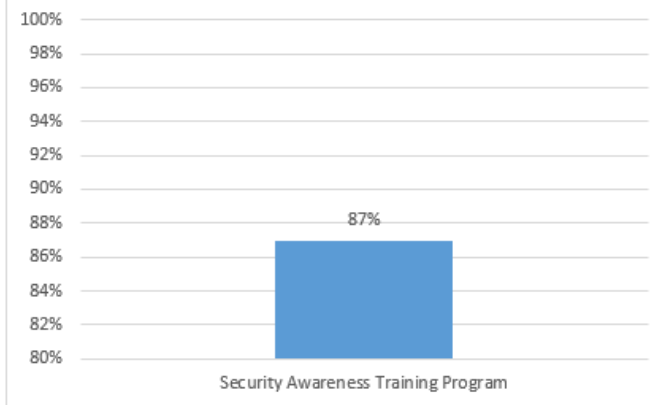
Milestones that are coming soon.

Name

Finish

% COMPLETE

Status for all top-level tasks. To see the status for subtasks, click on the chart and update the outline level in the Field List.

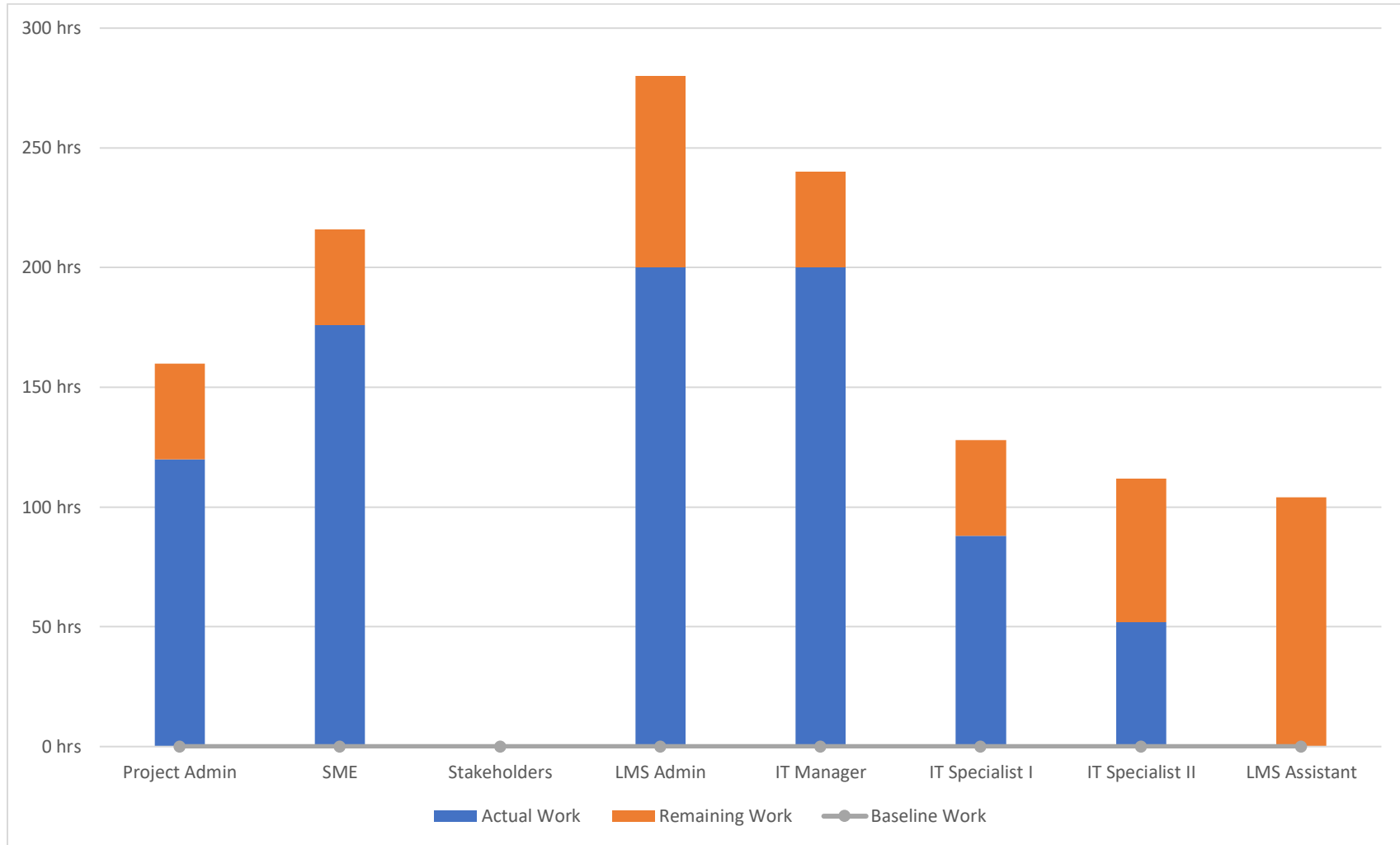


LATE TASKS

Tasks that are past due.

Name	Start	Finish	Duration	% Complete	Resource Names
------	-------	--------	----------	------------	----------------

Appendix K
RESOURCE OVERVIEW

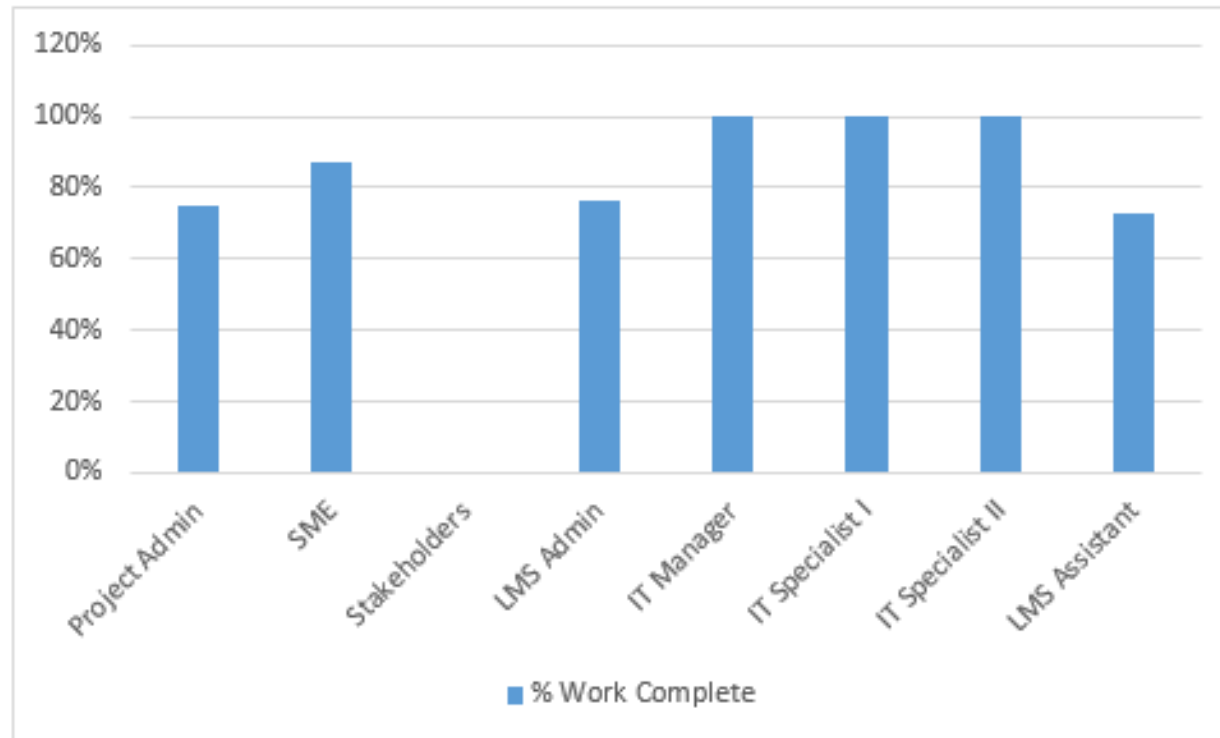


Appendix L

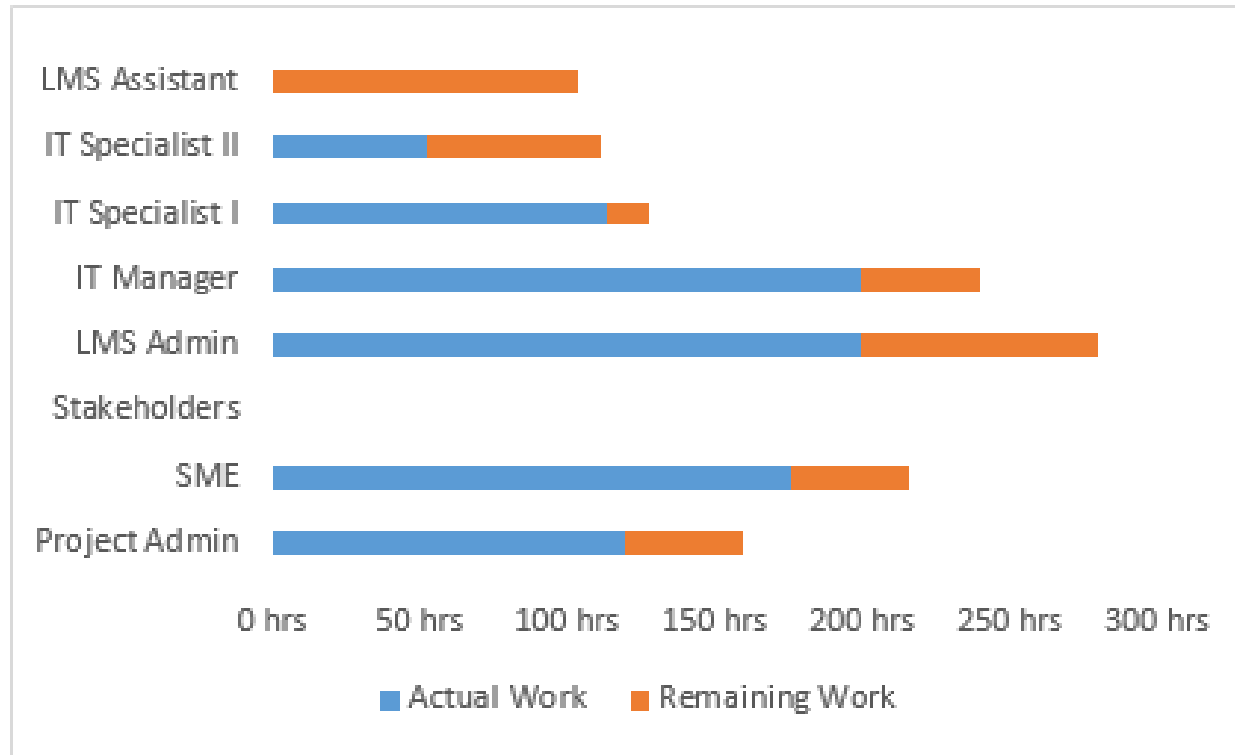
WORK STATUS

WORK STATUS

% work done by all the work resources.



Appendix M
RESOURCE STATISTICS



RESOURCE STATS

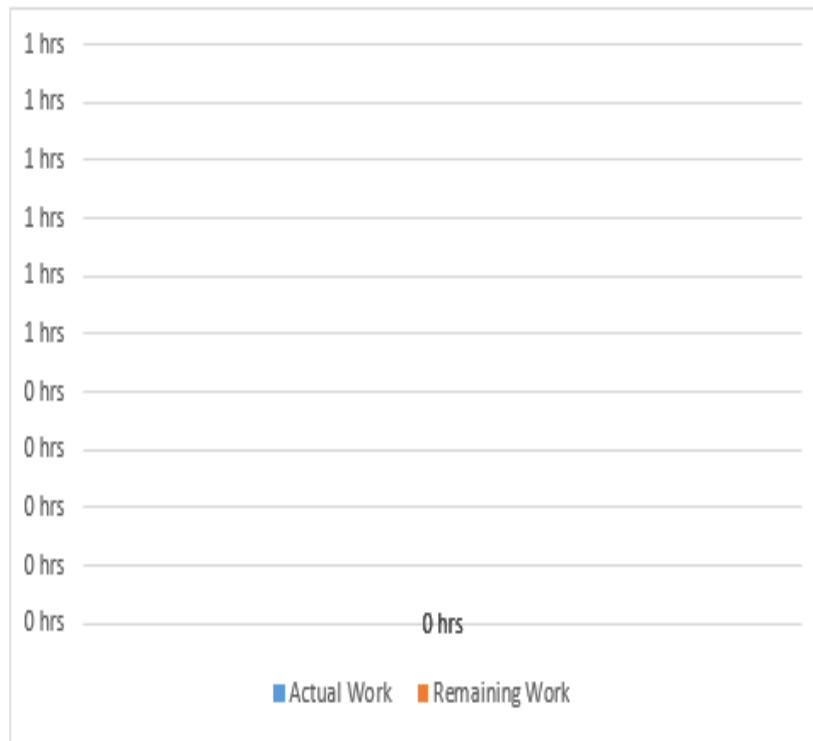
Shows work stats for all your resources.

Appendix N**REMAINING WORK FOR ALL WORK RESOURCES**

Name	Start	Finish	Remaining Work
Project Admin	Wed 1/26/22	Mon 5/23/22	40 hrs
SME	Mon 1/3/22	Mon 5/9/22	28 hrs
Stakeholders	NA	NA	0 hrs
LMS Admin	Wed 3/2/22	Mon 5/16/22	68 hrs
IT Manager	Mon 2/21/22	Mon 4/11/22	0 hrs
IT Specialist I	Mon 2/28/22	Thu 4/28/22	0 hrs
IT Specialist II	Mon 2/28/22	Wed 4/20/22	0 hrs
LMS Assistant	Thu 4/21/22	Mon 5/9/22	28 hrs

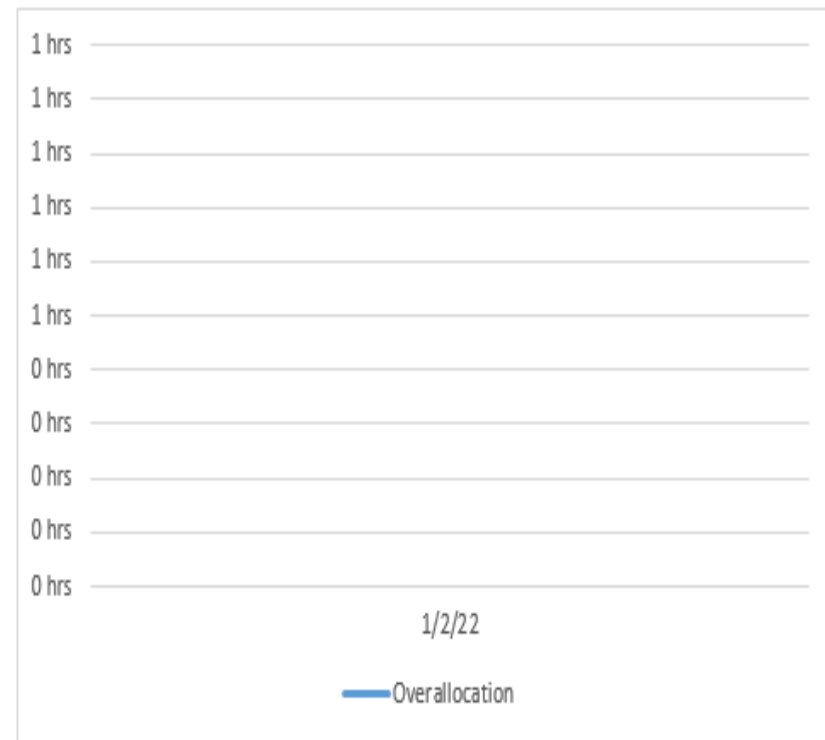
Appendix 0**OVERALLOCATED RESOURCES****WORK STATUS**

Work status for overallocated resources.

**OVERALLOCATION**

Surplus work assigned to overallocated resources. To resolve overallocations use

[Team Planner View](#)



Appendix P**LATE TASKS**

LATE TASKS



■ Status: Complete ■ Status: On Schedule
■ Status: Future Task

Tasks that are late as compared to the status date. A task is late if its finish date has passed or it is not progressing as planned.

Name	Start	Finish	% Complete	Remaining Work	Resource Names
------	-------	--------	------------	----------------	----------------

Appendix Q

CRITICAL TASKS

CRITICAL TASKS



- Status: Complete
- Status: On Schedule
- Status: Future Task

A task is critical if there is no room in the schedule for it to slip.
[Learn more about managing your project's critical path.](#)

Name	Start	Finish	% Complete	Remaining Work	Resource Names
System Users	Tue 5/3/22	Mon 5/9/22	30%	28 hrs	LMS Assistant
Post-implementation feedback	Tue 5/10/22	Mon 5/16/22	0%	40 hrs	LMS Admin
Lessons learned from the project	Tue 5/17/22	Mon 5/23/22	0%	40 hrs	Project Admin

Appendix R

MILESTONE REPORT

MILESTONE REPORT

LATE MILESTONES

Milestones that are past due.

Name	Finish
------	--------

MILESTONES UP NEXT

Milestones due in this month.

Name	Finish
------	--------

COMPLETED MILESTONES

Milestones that are 100% complete.

Name	Finish
Change Control Approval	
Project Plan Complete	
Contract with LMS provider complete	
Training Policy approved and released	