# CS 255 Module Two Assignment Template

## Functional Requirements

| **Functional Requirement** | **Rationale for Requirement** | **Source(s), APA format** |
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| The LMS should let an administrator register employees and students alike. | This is a necessity so people can be put into the system to use it. Having an admin do it reduces the risk for falsifying information. |  |
| The system should allow the user to download content of various types when correctly accessed. | Teachers provide many files/templates for students to work with, so it makes sense to allow different file types to be downloadable. |  |
| The system should be accessible by the user on mobile devices. | Students need the ability to check and upload assignments on the go, and mobile devices are heavily relied upon in these situations, so it makes sense to have a mobile version for the LMS, be it an app or mobile friendly webpages. | *5 Great College websites for mobile user experience and why - re: Charity*. re:charity. (2022, November 1). Retrieved January 13, 2023, from https://recharity.ca/5-great-college-websites-for-mobile-user-experience-and-why/ |
| The system should be able to generate reports on student activity. | Having the system track student grades/activity allows the teachers and institution to grasp how they can more effectively work with students and improve their learning experience. | The TFA Editorial Team. (2015, April 22). *How to effectively track student progress*. Teach For America. Retrieved January 13, 2023, from https://www.teachforamerica.org/stories/how-to-effectively-track-student-progress#:~:text=Tracking%20student%20progress%20plays%20a,seeing%20trends%20in%20student%20data. |
| The system should have integrated assistive tools for users to help them navigate the system or learn with. | Not everyone accessing the system can see or move easily, so having assistive tools increases the system’s accessibility to include people with forms of disability. | Ashford, M. (2022, December 14). *Assistive technology and your website*. Accessibility.com: Empowering digital accessibility for businesses. Retrieved January 13, 2023, from https://www.accessibility.com/blog/assistive-technology-and-your-website |
| The system should make use of TurnItIn to prevent plagiarism on written assignments. | TurnItIn is a great tool to tie into the LMS as it properly checks for plagiarism, discouraging students from cheating and lessening the load on teachers. | Meo, S. A., & Talha, M. (2019). *Turnitin: Is it a text matching or plagiarism detection tool?*. *Saudi journal of anaesthesia*, *13*(Suppl 1), S48–S51. <https://doi.org/10.4103/sja.SJA_772_18> |

## Nonfunctional Requirements

| **Nonfunctional Requirement** | **Rationale for Requirement** | **Source(s), APA format** |
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| The system must be reliable in that it can run on its own for days/weeks without failing. | The system can’t be used if it is down for any reason, so designing it in a way that it has minimal downtime is best. |  |
| The system should be restorable from a backup if it were to fail. | All systems can experience failure, so keeping backups of the LMS’s data that can be restored is very important. | *Backup & Secure | U.S. geological survey - USGS.GOV*. USGS. (n.d.). Retrieved January 13, 2023, from https://www.usgs.gov/data-management/backup-secure |
| The system should be able to handle a high volume of users at any time. | With teachers, admins, and many students, it is important to maintain stability with the amount of people accessing and using the LMS. | Le, T. (2021, November 22). *How much traffic can your website handle?* WP Engine. Retrieved January 13, 2023, from https://wpengine.com/resources/how-much-traffic-can-your-website-handle/ |
| The pages of the system must load within a few seconds of the user attempting to open them. | Responsiveness gives the system life, so if the functions of the page/system do not respond to the user, people will not want to use it. | *Why is responsive design so important?* WebFX. (2022, December 16). Retrieved January 13, 2023, from https://www.webfx.com/web-design/learn/why-responsive-design-important/ |
| Deploying new content (pages, modules, etc.) shouldn’t take the whole system down, and any affected pages should note when they will be back up. | The system needs to be as available as possible so that teachers and students alike can access and complete their work. |  |
| The system must be scalable in capacity as more students/teachers/departments are added. | Scalability is important as schools add students, teachers, courses, etc. all the time, and the system needs to be able to keep up with the increased accessing and data transferring. | Labrien, D. (2016, September 8). *6 tips for creating scalable websites*. Tech.co. Retrieved January 13, 2023, from https://tech.co/news/tips-scalable-websites-2016-09 |

## Assumptions

| **Assumption** | **Rationale for Requirement** | **Source(s), APA format** |
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| The LMS will be built in a cloud-based environment. | Cloud based systems are becoming much more commonplace, and they are much better for scalability than maintaining a local server system. | Sether, A. (2016, May 19). Cloud Computing Benefits. Retrieved January 13, 2023, from https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2781593. |
| The LMS will be made for English speaking users. | Schools in the U.S. speak and use English, so it is safe to assume the students will when accessing the LMS (outside of specific language courses). Not difficult to change but would require hiring translators if done. |  |

## Limitations

| **Limitation** | **Rationale for Requirement** | **Source(s), APA format** |
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| The LMS must function only within the bounds of a webpage and its browser. | Operating within a web browser means the system is limited in graphical and functional capability as opposed to a built-from-scratch application. This means no course specific functions are built into the system. |  |
| The system will only be able to handle text communication like discussion posts, emails, and announcements. | Web based systems generally lack face-to-face communication as it is difficult to integrate, especially in a website. Depending on the course/teacher, this could be a major limiting factor. | Ortagus, J. (2020, September 2). *What we know about the cost and quality of online education – Third way*. Third Way. Retrieved January 13, 2023, from https://www.thirdway.org/report/what-we-know-about-the-cost-and-quality-of-online-education |