**DEBARK UNIVERSITY**



16

**COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE**

**DEPARTMENT OF COMPUTER SCIENCE**

**INTERNSHIP DOCUMENT**

Contents

[ACKNOWLEDGEMENT ii](#_Toc163240488)

[ABSTRACT iii](#_Toc163240489)

[Internship Objectives iv](#_Toc163240490)

[Introduction v](#_Toc163240491)

[Background of the Organization and OLI System 1](#_Toc163240492)

[Remote Internship Setup 1](#_Toc163240493)

[Tasks and Projects in OLI System Development 2](#_Toc163240494)

[Skills Developed in Remote OLI System Development 4](#_Toc163240495)

[Learning Outcomes in Remote OLI System Development 5](#_Toc163240496)

[Feedback and Evaluation in Remote OLI System Development 7](#_Toc163240497)

[Methodologies 9](#_Toc163240498)

[Conclusion 10](#_Toc163240499)

# ACKNOWLEDGEMENT

I would like to express my deepest gratitude to Oli System Development for providing me with such a valuable internship experience. In particular, I wish to thank Franol Geleta, my internship supervisor, for his guidance and support over the course of this project. Franol took the time to ensure I understood both the technical and coding aspects of the work, and his feedback was incredibly helpful for my professional and personal growth.

Additionally, I am grateful to the entire Oli team for welcoming me and making me feel like a valuable part of projects, even as an intern. The supportive environment and trust given to take ownership over certain responsibilities aided tremendously in my learning.

Finally, thank you to my university advisors Professor for assisting me in securing this internship opportunity and providing career counselling every step of the way. Their experience was instrumental in helping me maximize my time at Oli.

This internship has been an incredibly rewarding experience that advanced both my technical abilities and coding skills. I am thankful to all who contributed to my development during this important phase of my education.

# ABSTRACT

This abstract provides a concise overview of the internship report detailing the experience gained during a two-month remote internship in OLI system development.

The report encompasses various facets of the internship journey, beginning with an exploration of the organization's background and its significance in the education sector. It further outlines the remote internship setup, elucidating the tasks, projects, and responsibilities undertaken in OLI system development.

Furthermore, the report delves into the skills acquired and honed throughout the internship, ranging from technical proficiencies to problem-solving abilities. It reflects on the learning outcomes derived from the remote work experience, emphasizing insights gained and lessons learned in the realm of online learning and instruction.

Additionally, the report analyses feedback and evaluation received from supervisors, mentors, and colleagues, shedding light on performance assessments and areas for improvement. The effectiveness of remote communication and collaboration tools is also examined, offering insights into virtual work environments.

# Internship Objectives

**Objective 1: Gain Practical Experience in OLI System Development**

* Develop proficiency in programming languages such as HTML, CSS, and JavaScript through hands-on experience in OLI system development projects.
* Acquire practical skills in web development, including designing interactive interfaces, implementing front-end functionalities, and troubleshooting technical issues.

**Objective 2: Enhance Problem-Solving Abilities and Critical Thinking Skills**

* Cultivate problem-solving capabilities by tackling real-world challenges encountered during OLI system development, such as debugging code, resolving technical issues, and optimizing user experience.
* Foster critical thinking skills through the analysis of complex problems and the formulation of innovative solutions to improve OLI system functionality and usability.

**Objective 3: Improve Collaboration and Communication Skills in a Remote Work Environment**

* Enhance collaboration skills by actively participating in virtual team meetings, contributing ideas, and collaborating with remote team members to achieve project objectives.
* Improve communication skills by articulating ideas effectively, seeking clarification when needed, and providing concise updates on project progress to supervisors and colleagues.

**Objective 4: Gain Insight into Online Learning Principles and Instructional Design Concepts**

* Deepen understanding of online learning principles by exploring the design and functionality of OLI systems, including adaptive learning algorithms, personalized learning experiences, and data-driven decision-making.
* Gain insight into instructional design concepts by analysing the alignment between educational objectives, instructional materials, and assessment methods within the context of OLI system development.

**Objective 5: Receive Feedback and Evaluation to Identify Areas for Growth and Development**

* Seek feedback from supervisors, mentors, and colleagues to assess performance, identify strengths, and pinpoint areas for improvement in OLI system development skills and competencies.
* Utilize feedback and evaluation to guide on-going professional development efforts and refine skills in web development, problem-solving, collaboration, and communication.

# Introduction

In today's educational landscape, technology integration is essential, reshaping traditional learning methods and introducing innovative instructional approaches. My internship experience in OLI system development has provided me with a profound understanding of the intersection between technology and education, offering insights into the dynamic realm of digital platforms.

This report reflects on my two-month remote internship journey, focusing on OLI system development projects. It explores the challenges and opportunities encountered during this experience. Over the internship period, I contributed to various projects aimed at enhancing educational experiences through digital platforms.

The report begins with an overview of the organization's background and its significant role in the education sector. It then outlines the structured setup of my remote internship, detailing tasks, projects, and responsibilities entrusted to me in OLI system development.

Furthermore, the report delves into the specific skills I acquired and honed during the internship, highlighting technical proficiencies, problem-solving abilities, and collaborative competencies developed through practical experience. Additionally, it reflects on the learning outcomes derived from remote work, emphasizing insights gained and lessons learned in project management and remote collaboration.

Moreover, feedback and evaluations from supervisors, mentors, and colleagues are analyzed, providing critical assessments of my performance in remote projects. The report also evaluates the effectiveness of remote communication and collaboration tools, offering insights into virtual work environments' efficacy.

# Background of the Organization and OLI System

The organization I interned with, OLI System, is a prominent IT solutions provider specializing in developing innovative software solutions for various industries. With a focus on leveraging technology to address complex business challenges, the organization has established itself as a leader in the field of IT consultancy and software development.

Within the realm of digital solutions, OLI System recognized the growing demand for advanced tools to enhance remote collaboration and project management experiences. As part of its offerings, the organization developed the OLI system, a comprehensive platform tailored to facilitate remote work and project management.

The OLI system represents a sophisticated software platform designed to streamline remote collaboration, project management, and communication among team members. It encompasses a range of features and functionalities aimed at optimizing various aspects of remote work, including task allocation, progress tracking, document sharing, and communication tools.

In today's dynamic work environment, IT solutions such as the OLI system play a crucial role in facilitating seamless remote work experiences. By providing teams with intuitive tools for collaboration and project management, the OLI system empowers organizations to adapt to remote work settings and maintain productivity and efficiency.

Working remotely on OLI system development projects presented several unique aspects and challenges:

* **Virtual Collaboration:** Collaborating with remote team members required leveraging digital communication tools and establishing effective virtual meeting protocols to ensure seamless coordination and alignment of project objectives.
* **Remote Access to Development Environment:** Providing remote access to development environments and resources necessitated implementing robust security measures and optimizing network configurations to ensure data integrity and system availability.
* **Maintaining Productivity and Engagement:** Maintaining productivity and team morale while working remotely required proactive measures to foster a sense of camaraderie, provide ongoing support, and facilitate virtual team-building activities.

# Remote Internship Setup

During my remote internship with [Organization Name], the structure and organization were meticulously planned to ensure effective collaboration and productivity despite physical distance. The internship was designed to provide me with hands-on experience in OLI system development while working remotely. Here's how the remote internship was structured and organized:

1. Onboarding and Orientation:

* Prior to the start of the internship, I underwent a comprehensive onboarding process conducted virtually. This included orientation sessions to familiarize me with the organization's culture, values, and policies.
* I was provided with access to relevant documentation, training materials, and online resources to facilitate my understanding of the OLI system and the organization's development processes.

1. Project Allocation and Supervision:

* Projects and tasks were allocated to me based on my skills, interests, and the organization's needs. These assignments were communicated to me clearly, along with expected deliverables and timelines.
* Regular check-ins and progress meetings were scheduled with my supervisor(s) to provide guidance, feedback, and support throughout the internship. These meetings were conducted virtually via video conferencing platforms.

1. Communication Tools and Technologies: The organization utilized a variety of communication tools and technologies to facilitate remote collaboration. This included:

* Video Conferencing: Platforms such as Zoom, Microsoft Teams, or Google Meet were used for virtual meetings, team discussions, and project updates.
* Instant Messaging: Tools like Slack or Microsoft Teams chat enabled real-time communication for quick queries, updates, and informal discussions.
* Project Management Software: Platforms such as Trello, Asana, or Jira were used to assign tasks, track progress, and manage project timelines collaboratively.
* Email: Traditional email communication was also utilized for formal communications, documentation sharing, and project updates.

1. Time and Task Management:

* Effectively managing my time and tasks while working remotely required discipline, organization, and self-motivation.
* I established a daily routine and set clear work hours to maintain consistency and structure in my schedule.
* Using digital calendars and task management tools, I prioritized tasks, set deadlines, and broke down larger projects into manageable chunks.
* Regularly updating progress on tasks, seeking clarification when needed, and communicating any challenges or obstacles to my supervisor(s) helped ensure alignment and accountability.

# Tasks and Projects in OLI System Development

During my remote internship with [Organization Name], I was assigned various tasks and projects related to OLI system development. Here's a detailed overview of the specific tasks, projects, and responsibilities I undertook:

1. **Cloning Typeform using HTML, CSS, and JavaScript:**
   * One of my primary tasks was to clone the functionality of Typeform, a popular online form builder, using HTML, CSS, and JavaScript.
   * I was responsible for understanding the features and user interface of Typeform and replicating them to create a similar interactive form builder interface.
   * This project involved designing the layout, implementing form validation, and integrating dynamic elements using JavaScript to create a seamless user experience.
2. **Creating a Single Page for Ad using HTML and CSS:**
   * Another project I worked on was designing and developing a single-page advertisement using HTML and CSS.
   * I was tasked with conceptualizing the ad layout, incorporating branding elements, and optimizing the design for responsiveness across different devices.
   * This project allowed me to demonstrate my creativity in visual design while adhering to branding guidelines and best practices in web development.
3. **Data Analysis in Excel:**
   * In addition to web development tasks, I also assisted in data analysis tasks using Excel.
   * I was responsible for organizing and analyzing data provided by the company, such as user feedback or survey responses, to extract insights and trends.
   * This involved creating charts, graphs, and pivot tables to visualize data and identify patterns that could inform decision-making processes.
4. **Version Control with Git and GitHub:**
   * Throughout my internship, I actively utilized Git and GitHub for version control and collaborative development.
   * I participated in repository management, branching, merging, and resolving conflicts to ensure smooth collaboration with team members.
   * This experience strengthened my understanding of software development workflows and best practices in version control.

**Remote Collaboration with Team Members:**

Collaborating with team members remotely to accomplish these tasks and projects involved several strategies and tools:

* **Regular Communication:** I maintained open communication channels with my team members through video calls, instant messaging, and email. We scheduled regular check-ins and progress meetings to discuss project updates, address challenges, and provide feedback.
* **Virtual Collaboration Tools:** We utilized collaboration tools such as Slack and Microsoft Teams for real-time communication and file sharing. This facilitated seamless coordination and allowed us to stay connected despite physical distance.
* **Shared Code Repositories:** Leveraging Git and GitHub, we collaborated on code development, reviewed each other's work, and provided feedback through pull requests and code reviews. This ensured code quality and alignment with project objectives.

**Adjustments for Remote Work Conditions:**

To accommodate remote work conditions effectively, I made several adjustments and adaptations:

* **Structured Work Environment:** I created a dedicated workspace at home conducive to productivity, free from distractions.
* **Time Management:** I established a structured work schedule, prioritized tasks, and set achievable deadlines to manage my time effectively.
* **Proactive Communication:** I communicated regularly with my supervisor and team members, seeking clarification when needed and updating them on progress to ensure alignment.
* **Documentation and Reporting:** I maintained thorough documentation of my work, including project notes, code comments, and progress reports, to facilitate collaboration and transparency.

# Skills Developed in Remote OLI System Development

During my remote internship in OLI system development, I acquired and enhanced a variety of technical skills while also developing crucial soft skills related to remote work and project management. Here's a reflection on the skills I developed:

**Technical Skills:**

1. **Programming:** Through tasks such as cloning Typeform and creating a single-page advertisement, I honed my programming skills in HTML, CSS, and JavaScript. I gained hands-on experience in building interactive web interfaces and implementing front-end functionalities.
2. **Debugging:** While working on coding tasks, I encountered various bugs and errors that required troubleshooting and debugging. Through systematic problem-solving approaches, I learned to identify and resolve issues efficiently, improving my debugging skills.
3. **Version Control:** Utilizing Git and GitHub for version control enhanced my ability to manage code repositories effectively. I became proficient in tasks such as branching, merging, resolving conflicts, and collaborating with team members through pull requests, contributing to a streamlined development workflow.

**Soft Skills:**

1. **Independence:** Working remotely challenged me to be more self-reliant and proactive in managing my tasks and deadlines. Without immediate access to in-person guidance, I learned to seek resources independently, research solutions, and take initiative to overcome obstacles.
2. **Time Management:** Remote work required disciplined time management to balance work responsibilities with personal commitments effectively. I improved my ability to prioritize tasks, set realistic goals, and allocate time efficiently to meet project deadlines.
3. **Communication:** Effective communication was vital for remote collaboration with team members and supervisors. I enhanced my written and verbal communication skills through clear and concise updates, active participation in virtual meetings, and timely responsiveness to messages and emails.

**Challenges Faced and Solutions:**

1. **Isolation and Distractions:** One of the main challenges of remote work was dealing with feelings of isolation and distractions at home. To address this, I established a dedicated workspace and implemented strategies to minimize distractions, such as setting boundaries with family members and establishing a daily routine.
2. **Lack of Immediate Feedback:** Working remotely meant that I didn't have immediate access to feedback or support from colleagues. To overcome this challenge, I actively sought feedback from my supervisor and peers through scheduled check-ins and regular updates on my progress. I also utilized online resources and documentation to fill knowledge gaps independently.
3. **Technical Difficulties:** Remote work occasionally presented technical challenges, such as internet connectivity issues or software compatibility issues. I learned to troubleshoot technical problems proactively, seeking help from IT support when necessary and exploring alternative solutions to keep my work on track.

# Learning Outcomes in Remote OLI System Development

My remote internship experience in OLI system development provided me with valuable insights and lessons that have significantly contributed to my professional growth. Here are the key learning outcomes:

**Insights Gained and Lessons Learned:**

1. **Adaptability and Flexibility:** Working remotely required adaptability to changing circumstances and flexibility in adjusting to new work environments. I learned to embrace uncertainty and proactively adapt my workflows and communication strategies to optimize productivity and collaboration.
2. **Self-discipline and Time Management:** Remote work demanded a high level of self-discipline and time management skills to maintain focus and meet deadlines effectively. I discovered the importance of setting boundaries, establishing routines, and prioritizing tasks to maximize efficiency and minimize distractions.
3. **Resourcefulness and Problem-solving:** Remote work presented unique challenges that required resourcefulness and creative problem-solving skills to overcome. I learned to leverage online resources, seek alternative solutions, and collaborate with team members to address technical issues and navigate obstacles effectively.

**Influence on Understanding of Online Learning Principles:**

1. **Accessibility and Inclusivity:** Remote work heightened my awareness of the importance of accessibility and inclusivity in online learning environments. I gained a deeper understanding of the need to design educational technologies that accommodate diverse learning needs, including those with disabilities or limited access to traditional learning resources.
2. **Personalized Learning:** Through my involvement in OLI system development, I recognized the potential of technology to facilitate personalized learning experiences. Remote work emphasized the significance of adaptive learning algorithms and data-driven approaches to tailor instruction to individual learners' preferences, abilities, and progress.
3. **Collaborative Learning:** Despite physical separation, remote work fostered collaborative learning opportunities through virtual teamwork and knowledge sharing. I experienced firsthand the power of digital collaboration tools in facilitating communication, peer feedback, and collaborative problem-solving, enhancing the collaborative aspect of online learning environments.

**Benefits and Drawbacks of Remote Work for Professional Development:**

**Benefits:**

1. **Autonomy and Independence:** Remote work provided autonomy and independence in managing my tasks and projects, fostering a sense of ownership and accountability for my work outcomes.
2. **Global Collaboration:** Remote work enabled me to collaborate with diverse teams and individuals from different geographical locations, enriching my professional network and exposing me to a global perspective on OLI system development.
3. **Work-Life Balance:** Remote work offered flexibility in balancing work responsibilities with personal commitments, promoting a healthier work-life balance and reducing stress associated with commuting and rigid work schedules.

**Drawbacks:**

1. **Communication Challenges:** Remote work presented communication challenges, such as misinterpretation of tone or delays in response time, which could impact collaboration and cohesion within remote teams.
2. **Social Isolation:** Working remotely occasionally led to feelings of social isolation and disconnection from colleagues, limiting opportunities for spontaneous interactions and informal networking.
3. **Technical Limitations:** Remote work sometimes encountered technical limitations, such as internet connectivity issues or compatibility issues with remote collaboration tools, which could disrupt workflow and productivity.

# Feedback and Evaluation in Remote OLI System Development

During my remote internship in OLI system development, I received valuable feedback from supervisors, mentors, and colleagues regarding my performance and contributions to various projects. Here's a summary of the feedback received:

1. **Technical Skills:** My supervisors and colleagues commended my proficiency in programming languages such as HTML, CSS, and JavaScript, noting my ability to create interactive and visually appealing web interfaces. They appreciated my attention to detail and adherence to best practices in web development, which contributed to the successful completion of tasks such as cloning Typeform and designing a single-page advertisement.
2. **Problem-solving Abilities:** Feedback highlighted my strong problem-solving abilities and resourcefulness in troubleshooting technical issues and debugging code. I demonstrated resilience and adaptability in overcoming obstacles, seeking alternative solutions, and effectively resolving challenges encountered during remote work.
3. **Collaboration and Communication:** Colleagues praised my effective communication skills and proactive approach to collaboration in remote work settings. Despite physical distance, I actively engaged with team members through virtual meetings, instant messaging, and email, seeking feedback, providing updates, and soliciting input to ensure alignment and coordination on project objectives.
4. **Time Management and Independence:** Supervisors noted my excellent time management skills and ability to work independently, managing tasks and deadlines effectively in a remote work environment. I demonstrated initiative and self-motivation in prioritizing tasks, setting achievable goals, and delivering high-quality work consistently.

Reflecting on the effectiveness of remote communication and collaboration tools for providing feedback and support during my internship, I found them to be instrumental in facilitating timely and constructive feedback, despite the physical separation. Here's how remote communication tools contributed to the feedback and support process:

1. **Real-time Communication:** Video conferencing platforms such as Zoom and Microsoft Teams enabled real-time communication and face-to-face interactions, replicating the experience of in-person meetings. This allowed for immediate feedback on project progress, clarification of expectations, and discussion of potential challenges or roadblocks.
2. **Instant Messaging:** Tools like Slack and Microsoft Teams chat provided a convenient and informal channel for quick queries, updates, and feedback exchanges. I could easily reach out to supervisors and colleagues for assistance or clarification, receiving prompt responses and support as needed.
3. **Document Sharing and Collaboration:** Online collaboration platforms such as Google Drive and Microsoft OneDrive facilitated document sharing, version control, and collaborative editing, enabling seamless collaboration on project documentation, code repositories, and other shared resources. This streamlined the feedback process, allowing for collaborative review and iteration on project deliverables.

# Methodologies

In order to successfully clone Typeform's key features within Oli's platform, a systematic research and development process was followed. This began with a thorough audit of Typeform's existing products to understand how their forms, surveys, and payment screens were structured from both a functional and visual perspective.

To conduct the feature audit, I created a detailed comparative spreadsheet listing out every major UI element, field type, and integrated service available on Typeform. I then went through their platform step-by-step, documenting how each piece worked and was styled. This allowed me to map out directly how Typeform's core experiences could translate into Oli's system.

With the audit findings in hand, I scheduled refinement sessions with my product manager to discuss an implementation strategy. We decided the optimal approach was to first focus on replicating the essential building blocks like question types, conditional logic, and payment gateways before moving onto more intricate designs. Prototyping in this modular, iterative way supported ongoing stakeholder feedback.

For the development itself, I utilized Oli's React codebase to build out the UI components and form schemas based on Typeform's source anatomy. APIs were integrated to connect features like payment processing and conditional branching. Styles were coded primarily with CSS and custom hooks for reusability.

Throughout the process, quality assurance testing was conducted via Oli's internal tools. This helped identify and squash bugs prior to presentating prototypes for User Experience research and validation. Regular standups also supported transparent progress reporting to key team members.

Adopting this structured workflow of research, modular planning and development, and testing/validation proved highly successful for the project. It ensured a replicable yet tailored end product aligned with both platforms' technical and strategic priorities.

# Conclusion

My remote internship experience in OLI system development has been a transformative journey, offering invaluable insights, learning opportunities, and personal growth. Throughout this report, I have highlighted the significance of my remote internship experience and reflected on its influence on my skills, professional growth, and perspective on online learning and instruction.

During my remote internship, I had the opportunity to work on diverse tasks and projects related to OLI system development, including cloning Typeform, designing single-page advertisements, and conducting data analysis. Through these experiences, I acquired and honed technical skills in programming, debugging, and version control, while also developing essential soft skills such as independence, time management, and communication.

Remote work presented unique challenges, including communication barriers, social isolation, and technical limitations. However, by leveraging remote collaboration tools and adopting proactive strategies, I successfully navigated these challenges and emerged with newfound resilience and adaptability.

My remote internship experience has significantly influenced my skills, professional growth, and perspective on online learning and instruction. I have gained a deeper understanding of online learning principles, including accessibility, personalization, and collaborative learning. Remote work has broadened my perspective on the potential of technology to enhance educational experiences and has equipped me with the skills and mindset needed to thrive in remote work environments.