

Professional Practice Within Intercultural and Global Contexts

As a robotics engineer, this project was my first experience working in a multidisciplinary and multicultural team. My team included one local member and two Muslim women, each bringing different perspectives and work styles. While this diversity enriched our collaboration, it also introduced language barriers and communication challenges.

This reflection explores the difficulties I faced in technical discussions and cross-cultural communication and how I adapted my approach to work more effectively in an intercultural environment.

My role in the project was to develop filtering algorithms and integrate soil moisture sensor data with soil models. This required close collaboration with teammates from different disciplines, including electronics, computing, and agricultural science.

One major challenge was language barriers. Since English was not the first language for all team members, some technical explanations required extra effort. When discussing signal processing, for example, I realized that concepts like Kalman filtering were unfamiliar to some team members, leading to misunderstandings. Additionally, indirect communication styles sometimes made it difficult to assess whether everyone fully understood the technical decisions.

Another challenge was differing technical priorities. The local member focused more on sensor hardware performance, while the other two teammates were more concerned about data usability in agricultural applications. This sometimes led to misaligned expectations on which aspects of the system needed optimization.

At first, I felt frustrated and uncertain about how to communicate effectively in such a diverse team. The language differences and varied levels of technical familiarity meant that progress was sometimes slower than expected. I worried that misunderstandings might lead to errors in the project.

However, as I adapted, I started to see the value of diverse perspectives. The different ways my teammates approached problems broadened my understanding of the project. Instead of focusing only on technical accuracy, I learned to consider how the system would be used in real-world applications. This shift in mindset helped me appreciate the benefits of interdisciplinary and intercultural collaboration.

One of the key challenges was technical communication. While I was comfortable discussing robotics and signal processing, I found that simplifying explanations was essential when working

with teammates from different backgrounds. Using too many technical terms too quickly sometimes led to confusion, requiring repeated explanations and additional discussions.

Another challenge was differences in work styles. Some team members preferred a structured, highly detailed approach, while others worked more flexibly, prioritizing overall functionality rather than technical depth. These differences sometimes made decision-making slower, as we needed to align our expectations and find common ground.

These challenges highlighted the importance of clear communication, patience, and adaptability in cross-cultural teamwork. I realized that working in a diverse team required not only technical skills but also interpersonal skills to ensure smooth collaboration.

To improve communication, I started using visual aids and structured discussions. Instead of relying solely on verbal explanations, I used diagrams and flowcharts to illustrate key concepts. This approach helped bridge language gaps and ensured that all team members could visualize complex processes more easily.

I also adopted active listening and clarification techniques, summarizing key points after discussions and encouraging teammates to ask questions. This made technical discussions more interactive and reduced misunderstandings.

This experience taught me that effective cross-cultural collaboration requires more than just technical expertise—it also demands adaptability, clear communication, and patience. I learned that using visual explanations and structured discussions can greatly enhance understanding in multicultural teams.

Another key takeaway was the importance of aligning expectations. By understanding my teammates' priorities, I was able to balance technical accuracy with practical usability, leading to a more well-rounded solution.

In future projects, I plan to further develop my cross-cultural communication skills, particularly in technical discussions with multidisciplinary teams. Additionally, I will explore more collaborative problem-solving methods, ensuring that diverse perspectives contribute effectively to the project's success.

Through this experience, I realized that engineering in a global context is not just about designing better systems—it's about working effectively with people from different backgrounds to create sustainable, real-world solutions.