

Appendix B: Case Scenario

Case Study: A Diabetic Person in a Problem-Based Learning Approach within the Metaverse

Background:

Mona, 35-years-old, is a mother of three children (two boys, one girl) and an engineer working for a local telecom company in Qatar. Recently diagnosed with Type 2 diabetes, Mona is pregnant and has multiple roles in her life: mother, wife, employee, friend, caregiver, and organizer of weekly sessions with women in her community for family-related events. Her life is demanding, and she is feeling increasingly stressed and anxious due to the growing number of roles and demands, compounded by her diabetes and pregnancy.

Problem:

One Tuesday evening, while preparing dinner for her family, Mona becomes overwhelmed and breaks down in tears. Her husband finds her crying, but she hides her emotions and continues with her duties. That night, Mona is unable to sleep, consumed by anxiety and stress. She tries to speak with her husband and sister, but they are preoccupied and unresponsive.

The following morning, Mona fails to wake up the kids or prepare breakfast, and for the first time in her career, she arrives two hours late to work, missing an important managerial meeting. Alone in her office, she starts crying again. Afraid to expose her vulnerability to her colleagues, Mona feels scared, alone, anxious, and hopeless, with no one to turn to for help.

Objective:

Over three to six weeks, teams within the Metaverse will be given tasks to develop a prototype mobile health application to assist Mona in managing her diabetes, stress, and various life roles, while also offering support, resources, and a sense of community.

Tasks:

- Research the unique challenges faced by individuals with diabetes, particularly pregnant women, and identify ways a mobile application can help address these challenges.
- Design a user-friendly interface for the app that meets Mona's needs and preferences, including features for tracking her blood sugar levels, diet, exercise, and medication adherence.
- Develop resources and educational content within the app to help Mona better understand and manage her diabetes.
- Integrate stress management and mental health tools, such as guided meditation, breathing exercises, and mindfulness techniques, to help Mona cope with her anxiety and stress.
- Create a secure, anonymous community forum within the app where Mona can connect with others experiencing similar challenges, fostering a supportive environment.
- Develop a feedback mechanism for Mona to communicate with healthcare professionals for guidance and advice regarding her diabetes management, mental health, and pregnancy.

- Plan a presentation to showcase the prototype mobile health application, its features, and its potential impact on Mona's health and well-being.

Outcome:

At the conclusion of the project, teams will showcase their prototype mobile health application within the Metaverse, highlighting its functionalities and how it addresses Mona's needs as a diabetic patient, pregnant woman, and someone experiencing stress and anxiety. The most outstanding prototype will provide a holistic solution to assist Mona in managing her health, connecting with others, and receiving support throughout her journey.