2.3 Domain Analysis

What is the Software Domain

The software domain we will be producing is a Java Desktop application software. Application software is a type of computer program that can perform an educational function. The application is designed to assist the end-users in accomplishing a variety of tasks, that are related to productivity, creativity, or communication. In our case, the purpose of this application is to create an educational application that works on the arithmetic skills of younger children. This application aims to work on calculating equations fast while working on memory. Our general domain will be primary-grade students in Elementary schools.

Who is the Target Audience

The target audience will be primary-grade students in Elementary schools.

Specific Subdomain

This project falls into the category of educational software within the broader domain of educational technology (EdTech).

Domain Insights

Teaching Approach: We need to first understand how kids learn math at their age to design a game that helps teach them effectively.

Keeping Interest: Younger children tend to easily get distracted, so the game should be fun and engaging.

Progress Tracking: Children should be able to see how well they are doing and if they are consistently improving each time.

Common Issues

Engagement and Retention: Maintaining young children's interests and ensuring that they stay engaged throughout the learning experience.

Appropriate Content: The content should align with curriculum standards and be developmentally appropriate for the targeted age group.

Feedback Mechanisms: Implementing effective feedback mechanisms in the game should help children understand their mistakes and learn from them.

Solutions

Gamification Techniques: Game elements such as rewards, challenges, and interactive feedback will help enhance and maintain child engagement.

Curriculum Alignment: The game content should align with the educational standards and curriculum guidelines of the target audience.

Leveraging Domain Understandings

By understanding our domain, the subdomain, issues, and solutions, we can plan to avoid certain problems in the future. We can avoid mistakes that other educational games made to make our application better. We can understand what we are trying to make before we even start programming. This may prevent us from redoing features because we may require a certain implementation before creating a feature. Through a better understanding of our domain, we can streamline our process significantly.