

**Title:** PlaySense: A Learning Game App Focused on Speech for Children under the Autism Spectrum Disorder (ASD)

**Authors:** Shaika Shahanie C. Caddy, Kimberly V. Villanueva, Claudine D. Villaruz

## **EXECUTIVE SUMMARY**

The study introduces the creation of PlaySense: A learning Game App focused on speech for children under the Autism Spectrum Disorder (ASD). It is a gamified educational platform meant to aid parents, teachers, occupational therapists, and speech-language pathologists on kids undergoing speech and language therapy. PlaySense is designed to address the factors surrounding uneven language, speech echolalia, and narrow interests which are commonly the symptoms of ASD. The game is supported with teaching methods such as the Adaptive Learning Approach and Thematic Matching from Picture Exchange Communication System to increase the standards of the application's effectivity.

PlaySense is developed with the C# language utilizing the Unity Game Engine and for its speech recognition, the Mobile Speech Recognizer API is utilized. Its database is stabilized with SQLite. The application's game design and assets, made with Adobe Photoshop, Paint Tool Sai, and Adobe Illustrator Draw. The phases of the development have been completed and the objectives have been achieved upon the deployment of the application. Necessary evaluations have been done to test the functionality and efficiency of PlaySense and have been proven to meet and exceed the requirements of its target users.

**Keywords:** Autism Spectrum Disorder; speech therapy; autism; speech-recognition; language; therapy;