

### Diagnosing Developmental Dyslexia In Primary School Children Using Deep Learning



**Enas Kutbi** 

Amjad Alzahrani

**Emtinan Maji** 

Shahad Aldaajani

Supervised by: Dr. Olfat Mirza

College of Computing, Department of Computer Science and Artificial Intelligence. Project ID: CS-451-P2-F24

# Introduction

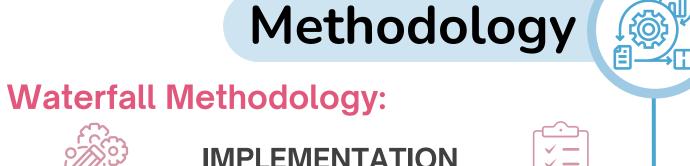
Reading is a fundamental skill that plays a key role in academic success and in participation in society. Consequently, reading difficulties can affect individuals and society as a whole. Dyslexia is a learning disorder characterized by difficulties in reading, primarily caused by challenges in identifying speech sounds and understanding their correspondence with letters and words.

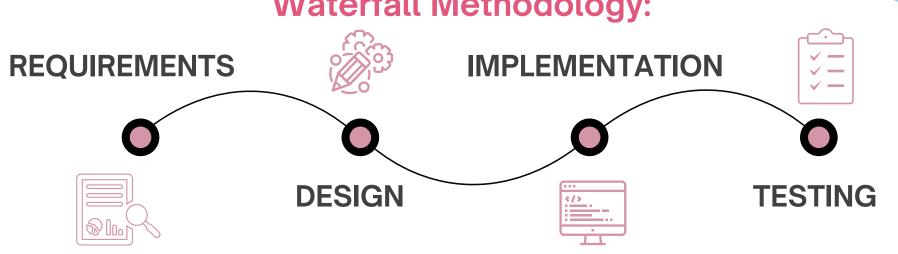
### **Abstract**

Yusr is an app for diagnosing dyslexia in children at an early stage to prevent academic delays and minimize negative impacts. To ensure a high level of accuracy in diagnosis, the diagnostic test is divided into three sections: symptoms detection, developmental skills test, and academic skills test. With the guidance of Taalom, a character within the app who assists the child throughout the test, the app provides a game-based and interactive testing experience that is more child-friendly.

## Objectives

- Develop an application to diagnose dyslexic children in Arabic.
- Facilitating the diagnosis process for dyslexia specialists.
- Measuring the Child's developmental and academic skills.







### **User Interfaces**

















## **Future Work**

- All letters will be included for testing.
- A reading fluency test will be added.
- A reading comprehension test will be added.
- A section for chatting with a dyslexia specialist will be added.
- The user will be able to monitor the child's progression by doing more than one test and view previous results.

## Conclusion

Yusr app addresses existing problems in the field of diagnosing developmental dyslexia and proposes a novel solution using deep learning techniques. By leveraging the power of artificial intelligence, the app can infer a percentage indicating a child's likelihood of having dyslexia, thereby assisting affected children in receiving early interventions.





Refrences



Demo