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Computerized Cognitive Retraining Program for Home-Based Learning in Children with Disabilities

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Problem Statement:

- Despite online education advancements, disabled individuals encounter barriers to quality learning platforms.
- Existing online environments often lack necessary accommodations for disabled learners.
- This exclusionary approach limits educational opportunities, perpetuating inequality.
- Addressing this requires a specialized platform meeting unique disabled needs.
- Goal: Ensure equal education access and foster inclusive learning environments.

Current Problem-

- Pandemic led to cognitive decline in students (Reffiane et al., 2021).
- Fear and unclear guidance exacerbated the situation (Salas-Rueda et al., 2021; Fitriani et al., 2022).
- Reduced knowledge and problem-solving skills observed (Munir et al., 2021; Sholahuddin et al., 2020).
- Teachers face challenges with varying numbers of special needs students.
- Urgent need for tailored support and innovative strategies to address academic impacts.

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Solution-

- Implement interactive and varied learning activities to maintain student engagement.
- Incorporate multimedia resources, interactive discussions, and project-based assignments.
- Prioritise diverse and engaging learning experiences to ensure integrated learning remains stimulating and meaningful for students in online environments

Objectives-

01. Develop an accessible platform for distance learning, assignments, tutoring, and engaging content tailored for children with short attention spans and verbal disabilities.

02. Implement a robust feedback system to provide timely evaluation and progress analysis for students.

03. Use machine learning for personalized content and assignments. Adapt continuously to support diverse student needs, including shorter attention spans and verbal disabilities.

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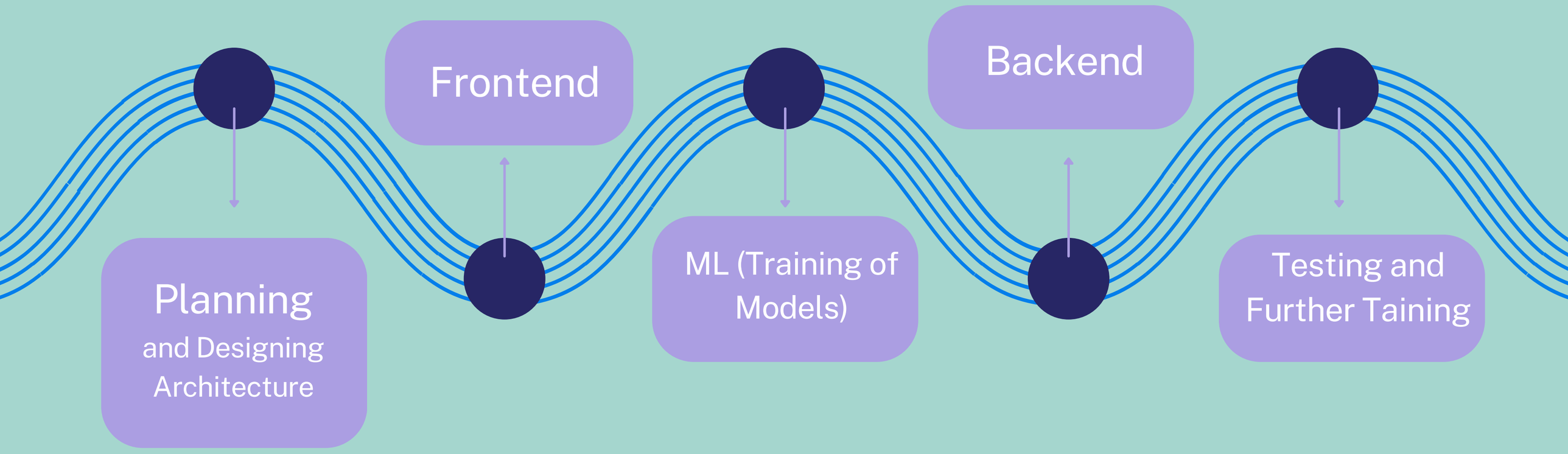
Project Timeline-



LITERATURE REVIEW

Sr.No.	Journals	Year	Techniques	Findings	Shortcomings
1.	Does Access Matter? Time in General Education and Achievement for Students With Disabilities	2013	It was an article paper.	This study examined the relationship between hours in general education and achievement in reading and mathematics for students with disabilities.	• Limited achievement measures: focused only on reading and math scores, ignoring social/behavioral aspects. • Broad term "access to general education contexts" not fully defined, overlooking quality of inclusion factors. • Data limitations: Missing demographic and multi-year test score data, reducing participant pool.

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1.	An Integrative Approach to Improve Students' Cognitive Ability Through Online Learning in The Covid-19 Pandemic	2022	It was an article paper.	• Identified decline in students' cognitive abilities during Covid-19 online learning. • Significant increase in students' cognitive x observed through integrated learning. • Pre-test average score: 32.17; Post-test average score: 48.47.	• Small sample size (17 students) limits generalizability of findings. • Lack of diversity in sample group may not represent broader student population. • Experimental design may not fully account for external factors influencing cognitive abilities. • Focus on one specific subject (Qur'an and Hadith) may limit applicability to other subjects or contexts. • Lack of long-term follow-up to assess sustainability of cognitive improvements.

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Sr.No.	Journals	Year	Techniques	Findings	Shortcomings
1.	Academic Progress of Students Across Inclusive and Traditional Settings	2013	It was an article paper.	• Students without disabilities in inclusive settings made significant academic progress in math and reading. • Students with disabilities, including those with specific labels like learning disabilities and mild mental handicaps, also showed academic progress in inclusive education. • While no significant differences in achievement were found compared to non-inclusive settings, inclusive environments generally favored student progress. • Overall, inclusive education benefits both students without disabilities and those with disabilities in terms of academic progress and achievement.	A very small group were observed

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Thank you very much!

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