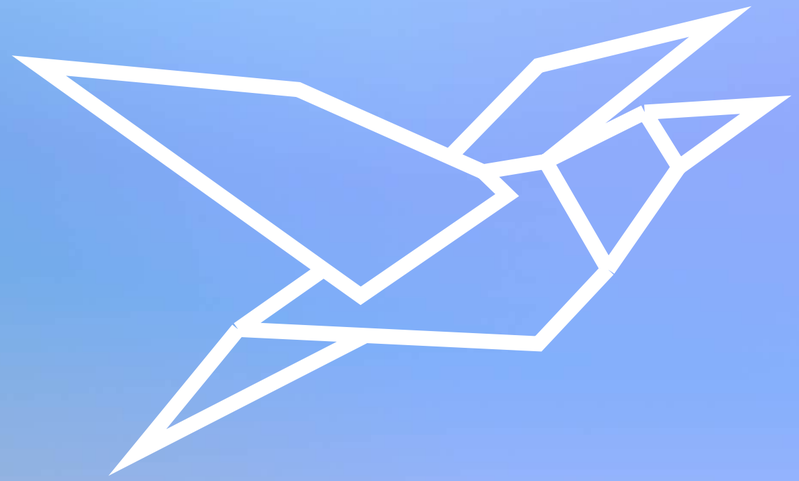
Philly CodeFest



CogniFly

Transforming Text into Immersive Learning Experiences

INTRODUCTION

Outdated textbooks and language barriers make learning a distant dream.

Long texts and static content lack engagement, making it hard to grasp abstract topics for people who are neurodivergent

CogniFly makes AI-generated videos with multiple language transcripts/captions with interactive experiences tailored to individual needs

Philly CodeFest

Background Study

- **Global Education Gap**: According to the UN, 251M children remain out of school, with 33% in low-income countries vs. 3% in high-income countries.
- **Language Barriers**: 40% of children lack education in a language they understand, hindering learning.
- **Neurodivergent Challenges**: Over 1 in 4 U.S. adults (28.7%) have a disability, including 13.9% with cognitive impairments affecting concentration, memory, or decision-making.
- **Visualization:** Visuals enhance learning by up to 400% as the brain processes them faster and more holistically than text.

Problem Statement

How might we transform traditional learning into an inclusive, engaging, and visual experience that empowers students of all backgrounds and abilities? 💡

Inspired by the United Nations' Sustainable Development Goals
***#4 Quality Education** - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*

https://unstats.un.org/sdgs/report/2017/goal-04/

- **Text - To- Video Generated** - Seamless learning experiences with AI generated videos for pdfs or excerpts that seem difficult to understand.

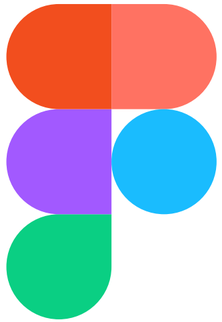
- **Customized Transcripts** – Generate multilingual transcripts, including rare dialects.

- **Neurodivergent-Friendly Modes** – Adjust speed, sensory input, and distractions for personalized learning for people with ADHD and dyslexia.

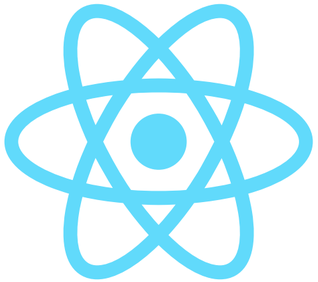
- **Interactive Learning** – Add quizzes, annotations, and interactive elements for engagement.

Our Solution

Tech - Stack



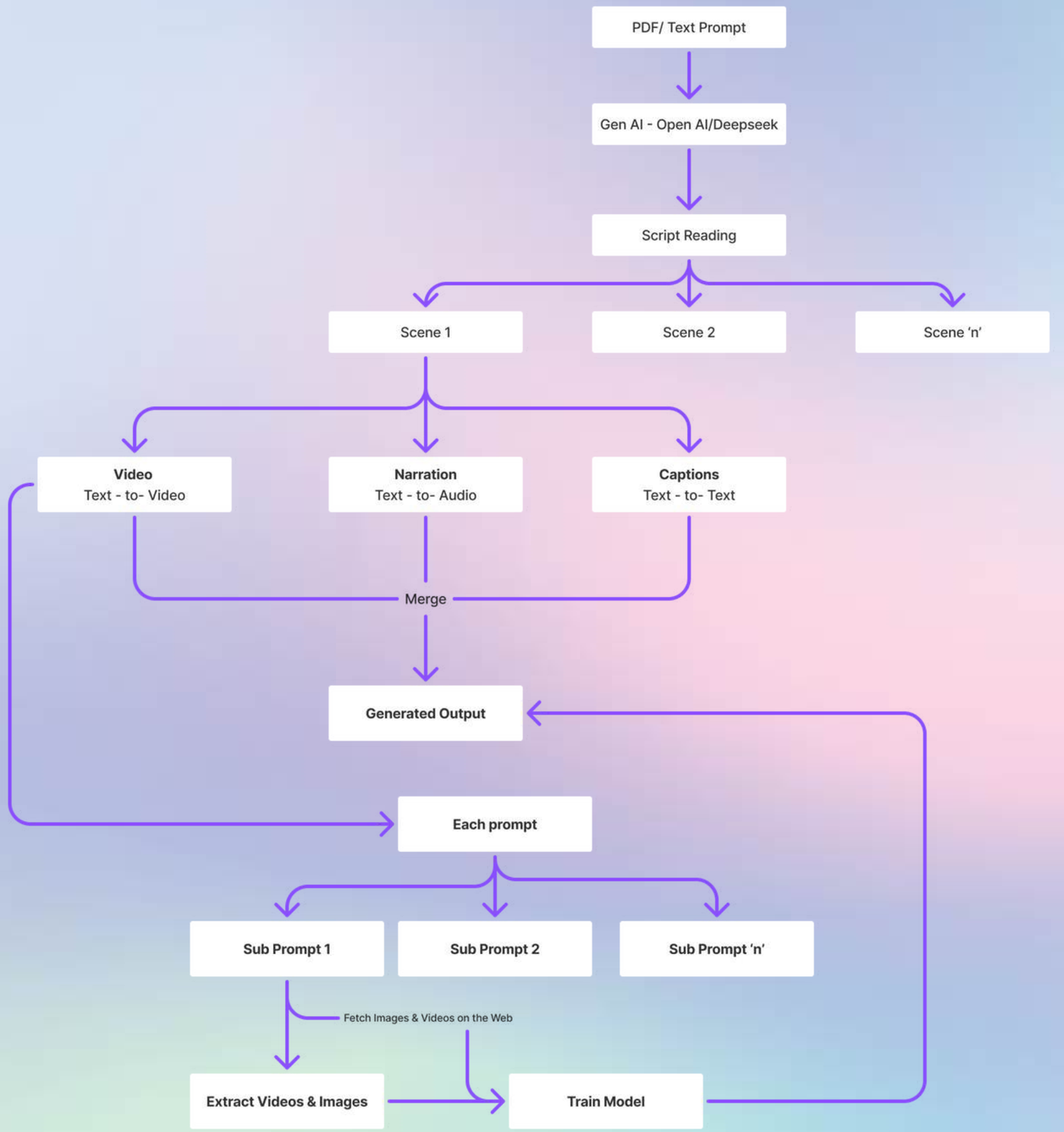
Design



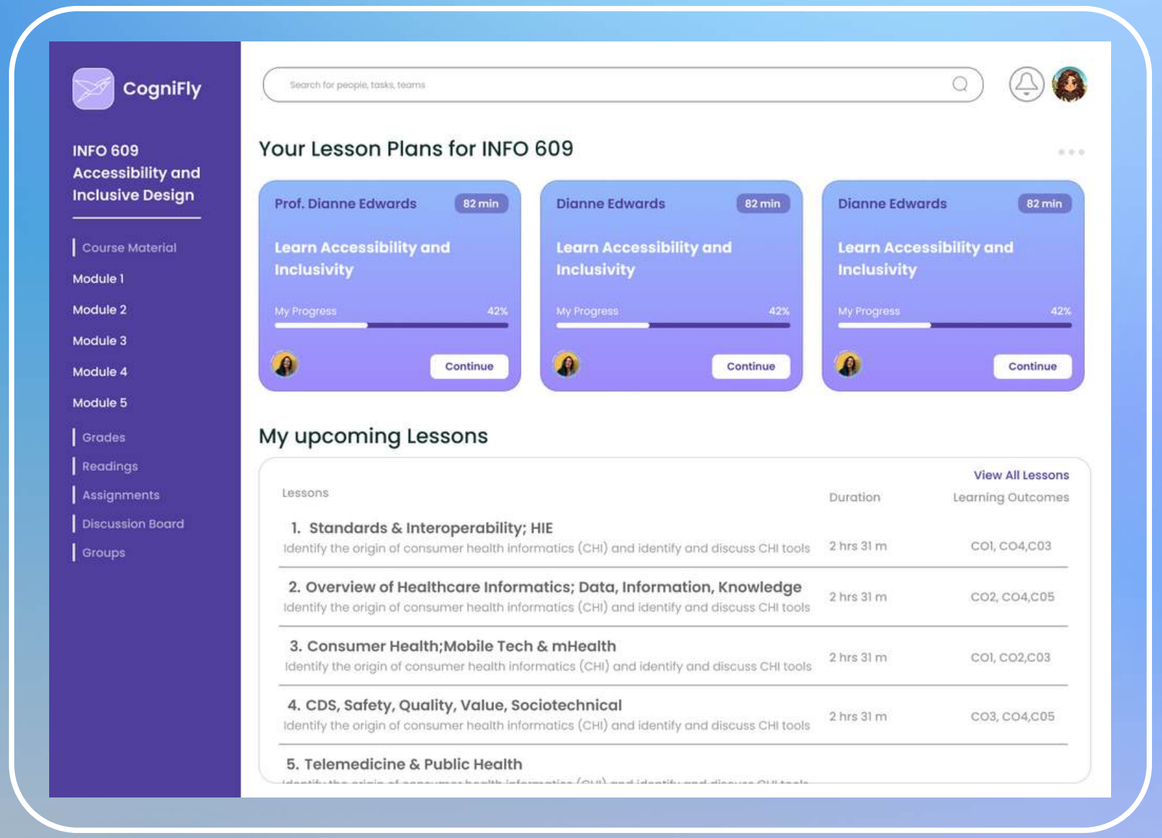
Front-End

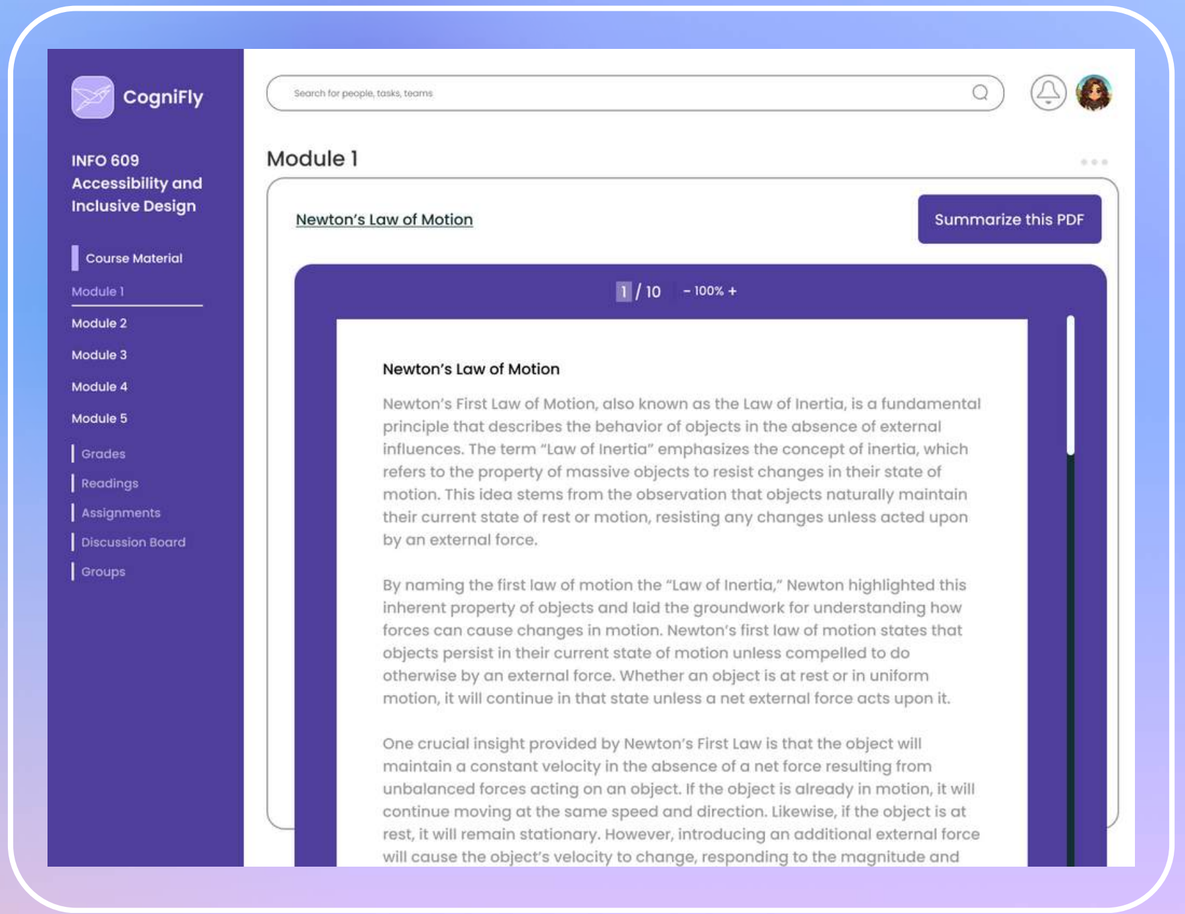
Backend

AI models



System Architecture


CogniFly
Search for people, tasks, teams
INFO 609 Accessibility and Inclusive Design
Course Material
Module 1
Module 2
Module 3
Module 4
Module 5
Grades
Readings
Assignments
Discussion Board
Groups
Your Lesson Plans for INFO 609
Prof. Dianne Edwards
82 min
Learn Accessibility and Inclusivity
My Progress
42%
Continue
Dianne Edwards
82 min
Learn Accessibility and Inclusivity
My Progress
42%
Continue
Dianne Edwards
82 min
Learn Accessibility and Inclusivity
My Progress
42%
Continue
My upcoming Lessons
View All Lessons
Lessons
Duration
Learning Outcomes
1. Standards & Interoperability; HIE
Identify the origin of consumer health informatics (CHI) and identify and discuss CHI tools
2 hrs 31 m
CO1, CO4,C03
2. Overview of Healthcare Informatics; Data, Information, Knowledge
Identify the origin of consumer health informatics (CHI) and identify and discuss CHI tools
2 hrs 31 m
CO2, CO4,C05
3. Consumer Health;Mobile Tech & mHealth
Identify the origin of consumer health informatics (CHI) and identify and discuss CHI tools
2 hrs 31 m
CO1, CO2,C03
4. CDS, Safety, Quality, Value, Sociotechnical
Identify the origin of consumer health informatics (CHI) and identify and discuss CHI tools
2 hrs 31 m
CO3, CO4,C05
5. Telemedicine & Public Health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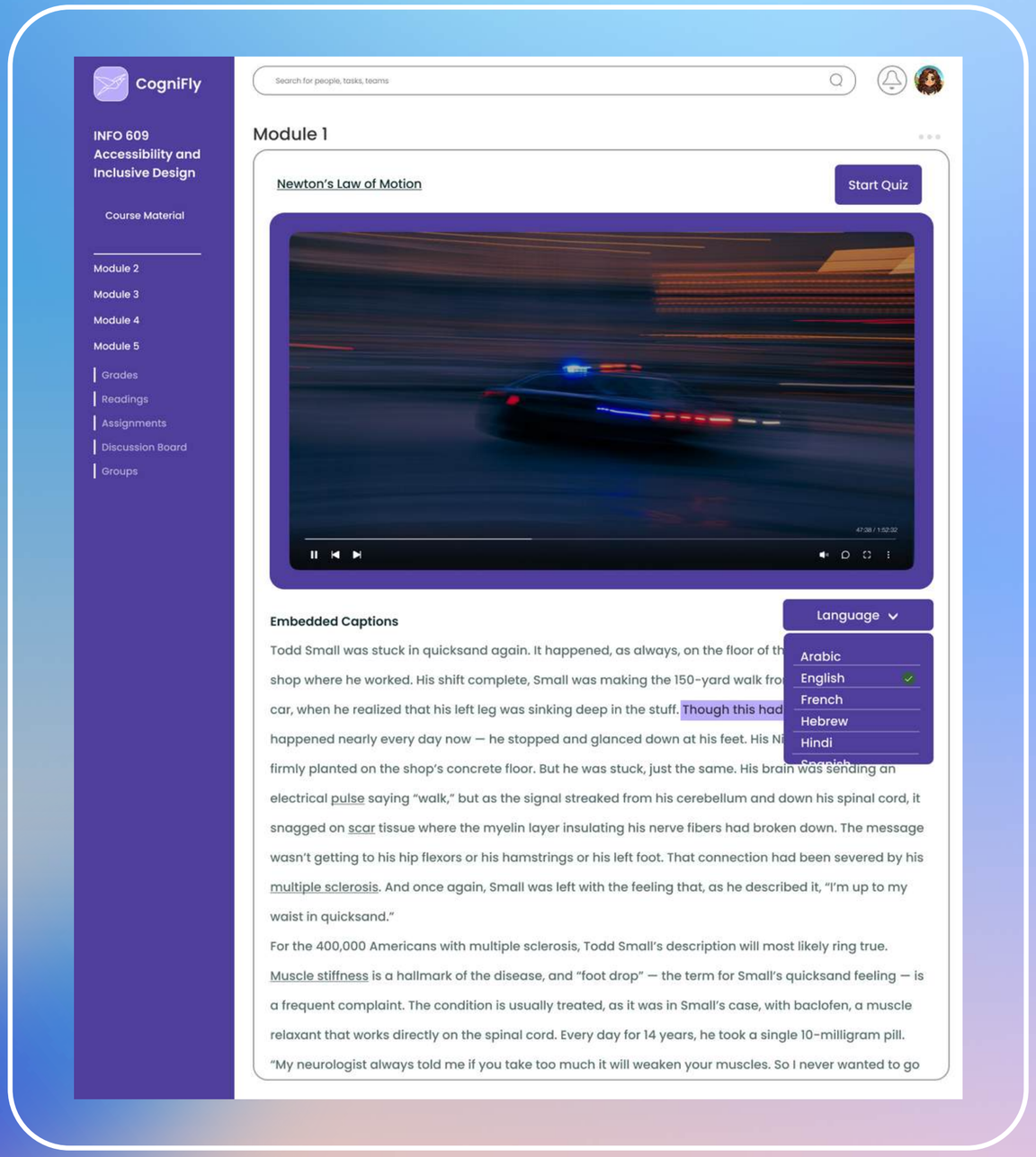
Module 1
Newton's Law of Motion
Summarize this PDF
1 / 10
- 100% +
Newton's Law of Motion
Newton's First Law of Motion, also known as the Law of Inertia, is a fundamental principle that describes the behavior of objects in the absence of external influences. The term "Law of Inertia" emphasizes the concept of inertia, which refers to the property of massive objects to resist changes in their state of motion. This idea stems from the observation that objects naturally maintain their current state of rest or motion, resisting any changes unless acted upon by an external force.
By naming the first law of motion the "Law of Inertia," Newton highlighted this inherent property of objects and laid the groundwork for understanding how forces can cause changes in motion. Newton's first law of motion states that objects persist in their current state of motion unless compelled to do otherwise by an external force. Whether an object is at rest or in uniform motion, it will continue in that state unless a net external force acts upon it.
One crucial insight provided by Newton's First Law is that the object will maintain a constant velocity in the absence of a net force resulting from unbalanced forces acting on an object. If the object is already in motion, it will continue moving at the same speed and direction. Likewise, if the object is at rest, it will remain stationary. However, introducing an additional external force will cause the object's velocity to change, responding to the magnitude and



How CogniFly simplifies boring texts

Implementation

Future Scope

🌍 **Global Accessibility & Multilingual Learning – AI-powered real-time translation, sign. Language support and audio narration for inclusive education and support sign languages.**

🎮 **Gamified & Immersive Learning – AR/VR integration, adaptive AI-driven lessons, and gamification elements like rewards and challenges to enhance engagement.**

🤝 **Community-Driven Education – A collaborative platform where students and teachers can create, share, and interact with video-based lessons in real time.**

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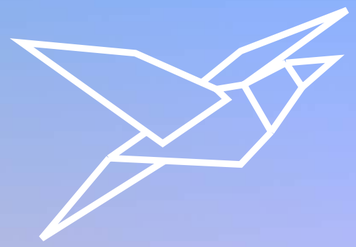
"BECAUSE EDUCATION SHOULD *BE FELT, SEEN, AND EXPERIENCED,* NOT JUST READ"



Cognifly

Resources

- 251 million children still out of school worldwide, UNESCO reports. (2024, October 31). UN News. https://news.un.org/en/story/2024/10/1156366

- 40% don't access education in a language they understand. (2023, April 20). Global Education Monitoring Report. https://www.unesco.org/gem-report/en/articles/40-dont-access-education-language-they-understand

- Disability impacts all of us infographic. (2024b, December 18). Disability and Health. https://www.cdc.gov/disability-and-health/articles-documents/disability-impacts-all-of-us-infographic.html

- Visuals are the message in effective communications - League of Minnesota Cities. (2023, July 10). League of Minnesota Cities. https://www.lmc.org/news-publications/magazine/july-aug-2023/message-matters-july-2023/