# Adaptive Storytelling for Children: Personalised Fiction through Large Language Models

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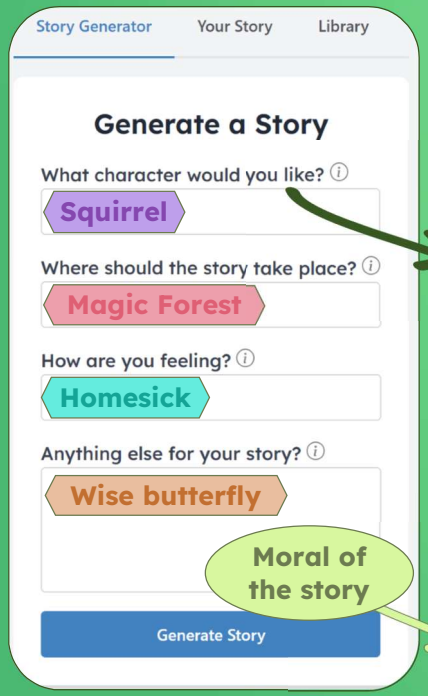
## Introduction

Access to high-quality educational resources is often limited by socioeconomic factors, delaying children's literacy development and emotional growth. While technology has the potential to bridge this gap, its improper use can negatively affect cognitive and social development. This raises the need for a purposeful, adaptive learning tool that supports both reading skills and emotional well-being. Exploring how technology can be used effectively for these purposes is a key challenge in modern education.

## Aims & Objectives

This project aims to develop an AI storytelling tool that will help parents and teachers support children in understanding and managing their emotions, while also reinforcing their reading skills. By combining personalised storytelling with educational strategies, this tool seeks to make reading a more accessible, engaging and emotionally enriching experience for young learners.

## Methodologies


### Your personalised story

Squeaky was a little squirrel with a fluffy tail and big, bright eyes. [...] Even though the magic forest was beautiful, it wasn't home. [...] A beautiful butterfly with wings like stained glass landed gently on his nose. [...] Squeaky told her all about his old oak tree and how much he missed it. [...] When Squeaky finished, she nodded wisely. [...] He finally understood that home isn't just a place, it's the love and memories you carry with you.

The web application allows users to customise stories by selecting a child's mood, preferred character, setting, and other details. To guide the AI model in generating high-quality narratives, prompt engineering is used to structure responses effectively, ensuring that the stories are appropriate, engaging, and educational. Fables are integrated to convey moral lessons through characters who overcome physical and emotional challenges, helping children relate to the narrative and see themselves reflected in it.

The application is built using Python and Flask for backend processing, and JavaScript and HTML for the interactive frontend. The Google Gemini API is used to generate customised stories. When a user submits the form, Flask processes the input into a prompt and sends it to the API. The resulting story is displayed on the site and saved in the Library for future access. Users can also edit specific elements of their story as needed.

## Results & Evaluation

The results of this project show that the stories that are generated, successfully incorporate personalised details and feature characters who overcome emotional challenges. To evaluate the stories, quantitative and qualitative methods will be used. Readability and age appropriateness will be assessed using the Flesch-Kincaid score, providing a numerical value of the text's complexity. Additionally, a qualitative user evaluation will be conducted, where participants read a selection of stories and respond to a structured set of questions. They will rate the stories, compare them to a benchmark (non-personalised) story, indicate their preferred version, and comment on whether they would consider using the system with a young person in their lives.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