



# SRI RAMAKRISHNA ENGINEERING COLLEGE

[Educational Service : SNR Sons Charitable Trust]

[Autonomous Institution, Reaccredited by NAAC with A+ grade]

[Approved by AICTE and Permanently Affiliated to Anna University, Chennai]

[ISO 9001:2015 Certified and all eligible programmes Accredited by NBA]

VATTAMALAIPALAYAM, N.G.G.O. COLONY POST, COIMBATORE – 641 022



**Batch No:4CS33**

**Panel No:12**

**Group No:3**

## 20CS298– Main Project

### “CAMPUS CONNECT GO”

Type of Project: Application

**Expected Project Outcome : Publication**

**Presented by**

**Madhumitha B –(71812201123)**

**Madhumitha M- (71812201124)**

**Nalinkumar S-(71812201141)**

**Supervised by**

**Dr. Saveetha V**

**Assistant Professor(SI,GRADE)/CSE**

**Review No : I**

**Date : 13.09.2025**

# Contents

S.No	Description	Slide Number
1	Introduction	3
2	Problem identification, scope and objective	4-5
3	Literature Survey	6-10
4	Existing technology of the project	11-12
5	Methodology	13
6	Timeline & Proposed Outcome	14-15
7	References	16

# Introduction

- Most existing campus apps focus only on limited features like chat, notes, or navigation, forcing students to switch between multiple platforms.
- Traditional chatbots in education are rule-based or FAQ-driven, failing to provide context-aware academic assistance or dynamic knowledge retrieval.
- Current systems do not integrate global student communities, lecture bots, note-sharing, and campus utilities into a single unified application.
- Existing solutions lack retrieval-augmented AI models that can provide personalized, accurate, and real-time responses using stored academic resources.
- This project develops an AI-powered campus platform that combines global chat, lecture bots, notes, maps, and community tools into one app with real-time assistance and intelligent retrieval.

# Problem identification, scope and objectives (Contd.,)

## Problem Definition:

- Existing campus systems are scattered across multiple platforms, making it difficult for students and faculty to communicate, access learning resources, share notes, and collaborate effectively. The lack of real-time updates, AI-powered academic assistance, and a unified interface limits student engagement and hampers the overall digital campus experience.

## Scope:

- **Unified Digital Platform:** Combine chat, lecture bots, notes sharing, and campus tools into one easy-to-use web and mobile application.
- **AI-Powered Learning Support:** Use AI models for instant academic help, smart search, and personalized learning assistance.
- **Secure & Scalable System:** Ensure real-time communication, data security, and cloud-based deployment for smooth performance and growth.

# Problem identification, scope and objectives

## Objectives:

- **To** develop a unified platform for campus communication, learning resources, and collaboration in one accessible application.
- **To** integrate AI-powered lecture bots and smart search for instant academic assistance and personalized learning support.
- **To** ensure secure, scalable, and real-time connectivity using modern technologies and cloud infrastructure.

# Literature Survey - 01

Experiment	Inference	Problem gap
Retrieval-Augmented Generation (RAG)	RAG models pair a generative model with an external knowledge index, enabling more factual text and easy knowledge updates without retraining.	<b>Stale knowledge and hallucinations:</b> Parametric-only models struggle with factual recall and cannot easily update their knowledge, leading to inaccurate or outdated responses.

- **Source:** Lewis, P., et al. (2021). *Retrieval-Augmented Generation for Knowledge-Intensive NLP Tasks*. arXiv:2005.11401v4 [cs.CL].

## Literature Survey - 02

Experiment	Inference	Problem gap
The Transformer	The Transformer uses attention instead of recurrence or convolution, enabling faster training and efficient handling of long-range dependencies.	Transformers are inefficient for long sequences due to quadratic complexity and lack external memory for real-time, context-aware information.

- **Source:** Vaswani, A., et al. (2017). *Attention Is All You Need*. arXiv:1706.03762v7 [cs.CL], vol. 30, pp. 5998-6008.

## Literature Survey - 03

Experiment		Inference	Problem gap
Suffix Augmented Modelling (SUREALM)	Retrieval-Language	SUREALM augments a causal language model with retrieved embeddings, using similar word histories to simulate bi-directional context and improve generative performance.	SUREALM enhances a causal language model by retrieving similar word histories to mimic bi-directional context, improving generative tasks with "future" context.

- **Source:** Wang, Z., & Tam, Y-C. (2023). *SUREALM: Suffix Retrieval-Augmented Language Modeling*. arXiv:2211.03053v2 [cs.CL].



Experiment	Inference	Problem gap
AI Teaching Assistant System Using RAG	A RAG-based system for a university database course achieved up to 86% accuracy, showing its effectiveness in delivering accurate, context-aware answers from a specific knowledge base.	<b>Lack of human interaction and ethical concerns:</b> AI systems, while efficient, may lack the empathy and personal connection of human educators, and can raise concerns about data privacy and security.

- **Source:**Lang, G., & Gürpınar, T. (2025). *AI-Powered Learning Support: A Study of Retrieval-Augmented Generation (RAG) Chatbot Effectiveness in an Online Course*. Information Systems. Education Journal, 23(2).

## Literature Survey - 05

Experiment	Inference	Problem gap
AI in Academic Library Search	Integrating RAG into academic libraries improves search precision with semantic indexing, enables real-time queries, and supports personalized research assistance.	<b>Implementation challenges and ethical considerations:</b> RAG in libraries demands careful architecture, data protection, copyright compliance, plus attention to scalability, ethics, and cost.

- **Source:** Pawar, V. (2024). *Using AI in Academic Libraries: Application and Challenges*. International Journal of Innovative Science and Research Technology, 9(5).

## Photographs


**Campus Connect**

### Welcome to Campus Connect


Please sign in to your account

Sign in

or

 Sign in with Google

Don't have an account? [Sign up](#)

**Campus Connect** John Doe 

Home

Global Chat

Lecture Bots

Notes & Resources

Events

Global Chat

Alicia Vance  
Hey! Is anyone else attending the AI lecture today?  
2:34 PM

Courtney Henry  
Yes, I am! It's been a great semester so far.  
2:36 PM


John Doe  
Same here! The professor is very engaging.  
2:37 PM

Theresa Webb  
I have a question about the assignment.  
2:39 PM

Anton  
Feel free to ask it here!  
2:40 PM

Send a message...

Campus Map & Events



Lecture Bots

How to solve problems in calculus?  
Here's a step-by-step guide to solve problems in calculus  
View Answer

Notes & Resources

Physics 101 Lecture Notes

Algorithms Overview

Question Paper

AI Research Paper

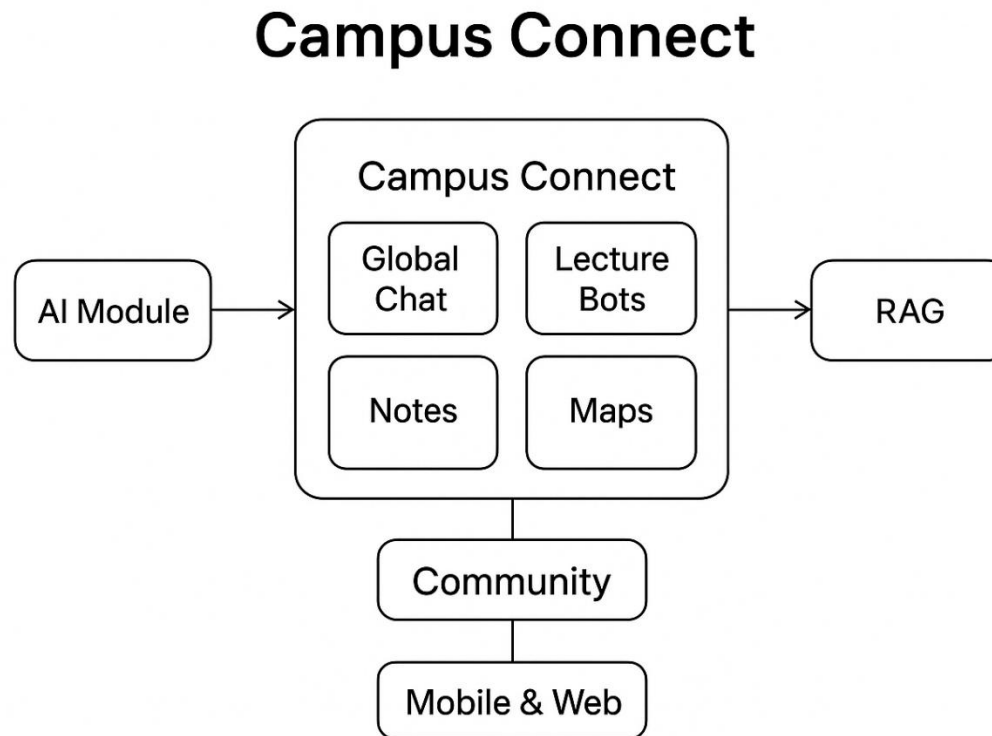
Notifications

Exam schedule thastidisdino semetix

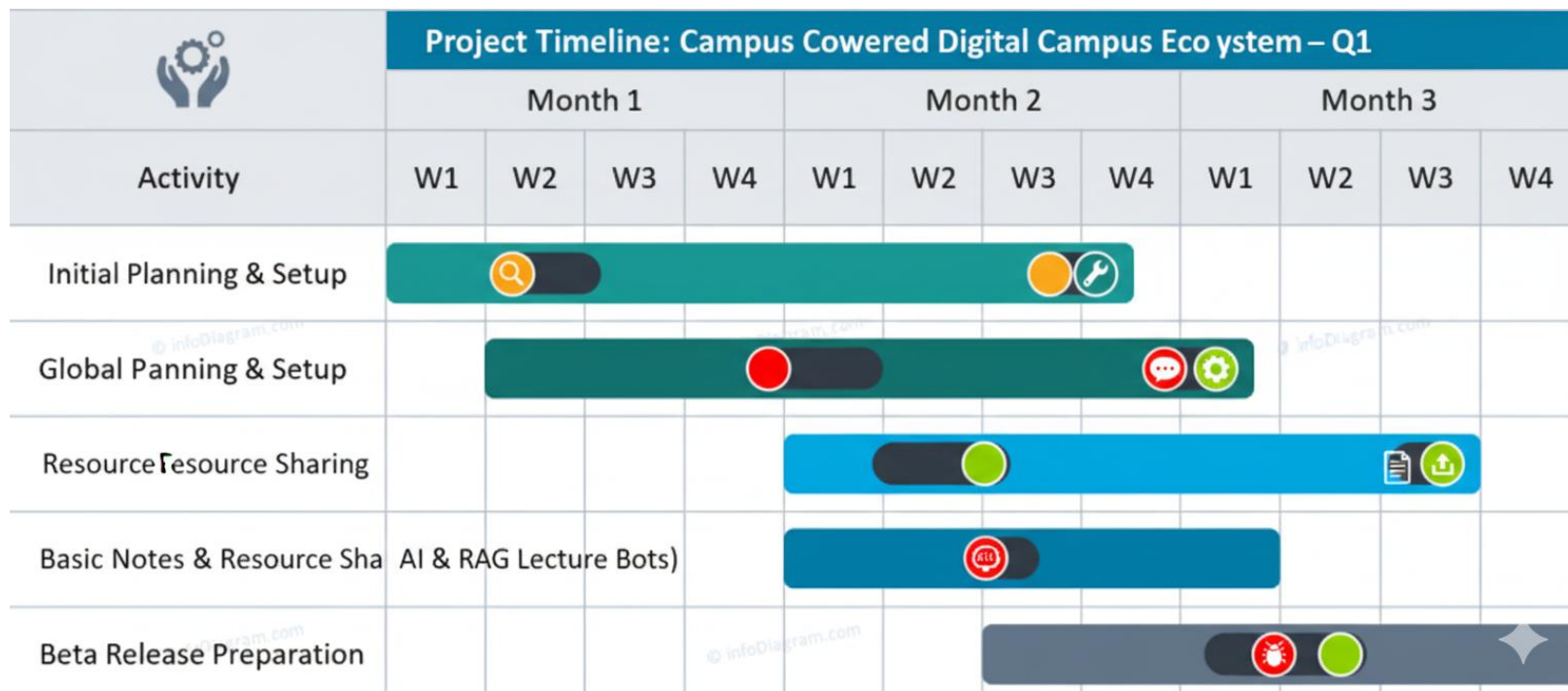
11

# Methodology to be adopted

## Flow Chart



# Timeline of the Project and Budget



## Proposed Outcome:

- A unified AI-powered campus platform integrating RAG chatbots for real-time academic assistance.
- Secure and instant access to notes, papers, lecture materials, and question banks in multiple formats.
- Tools for lecture support, campus navigation, and community engagement.
- Enhanced collaboration and connectivity between students, faculty, and institutions locally and globally.
- Scalable and cost-effective solution suitable for colleges, universities, and international academic networks.

# References

1. Lewis, P., et al. (2021). *Retrieval-Augmented Generation for Knowledge-Intensive NLP Tasks*. arXiv:2005.11401v4 [cs.CL].
2. Vaswani, A., et al. (2017). *Attention Is All You Need*. arXiv:1706.03762v7 [cs.CL], vol. 30, pp. 5998-6008.
3. Wang, Z., & Tam, Y-C. (2023). *SUREALM: Suffix Retrieval-Augmented Language Modeling*. arXiv:2211.03053v2 [cs.CL].
4. Lang, G., & Gürpınar, T. (2025). *AI-Powered Learning Support: A Study of Retrieval-Augmented Generation (RAG) Chatbot Effectiveness in an Online Course*. Information Systems. Education Journal, 23(2).
5. Pawar, V. (2024). *Using AI in Academic Libraries: Application and Challenges*. International Journal of Innovative Science and Research Technology, 9(5).