UnitedGen

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Abstract- **In contemporary societal discourse, intersex individuals often face misidentification and marginalisation, frequently conflated with transgender persons. This research delves into the distinctive nature of intersex identities, where individuals embody a spectrum outside the conventional male/female sex binary. In contrast, transgender individuals experience a deviation between their gender identity and societal expectations associated with their assigned sex at birth. The intersex community in India, unfortunately, encounters derogatory labels and societal relegation, such as the terms "chakke" or "hijre."**

This proposed initiative seeks to address the unique challenges faced by intersex and transgender individuals in India by creating a dedicated website. The platform aims to provide comprehensive information, support, and resources tailored to the needs of these communities. By bridging identities and fostering understanding, this initiative strives to empower individuals within the intersex and transgender communities, combating stigma and promoting inclusivity.

Keywords- LangChain, LLM, Llama2, RAG, Prompt, Tools, Chains

I. INTRODUCTION

This article provides a detailed guide on the development and utilisation of a website designed specifically to support intersex and transgender individuals. It outlines the process in a step-by-step manner, offering practical insights into how the website was created to cater to the unique needs of these communities. From conceptualisation to implementation, each stage of the website's development is explored, emphasising its role in providing comprehensive information, assistance, and resources. Through this walkthrough, readers gain a deeper understanding of how the website aims to empower and uplift intersex and transgender individuals. We live in a society that is deeply structured by sex and gender. The categorization of people as ‘male’ or ‘female’ permeates our society on every level. But sexual orientation categories based on the gender binary system are disrupted by gender diversity. Gender diversity provides a challenge to the gender binary system in a number of ways—via intersex, third or other genders, gender fluidity, positions outside of gender, gender queer etc. People of the ‘Transgender’ category also challenge this normalization of gender binaries. In India there are a host of socio – cultural groups of transgender people like hijras/ kinnars, and other transgender identities like – shiv-shaktis, jogtas, jogappas, Aradhis, Sakhi, etc. All members of these subgroups face severe discrimination and harassment in all respects in contemporary India and they are subjected to un fair treatments like verbal abuse, physical and sexual violence; false arrests; denial of share in their ancestral property, services, and admission to educational institutions; and victimization in multiple settings like family, educational institutions, workplace, health care settings, public spaces. Seldom, our society realizes or cares to realize the trauma, pain and agony which the members of Transgender community neither undergo, nor appreciates the innate feelings of the members of the Transgender community, especially of those whose mind and body disown their biological sex. Our society often ridicules and abuses the Transgender community and in public places like railway stations, bus stands, schools, workplaces, malls, theatres, hospitals, they are sidelined and treated as untouchables. So far, these communities perceive that they have been excluded from effectively participating in social and cultural life; economy; and politics and decision-making processes. A primary reason (and consequence) of the exclusion is perceived to be the lack of (or ambiguity in) recognition of the gender status of hijras and other. The creation of the Unity Gen website involved a comprehensive process that addressed the specific needs and challenges faced by transgender and intersex individuals. Here's a summary of the formation of making the website and the various components involved.

The initial step involved recognizing the barriers to education and employment faced by transgender and intersex people due to discrimination and lack of opportunities.The concept of Unity Gen emerged as a solution to provide basic education and job opportunities to empower these marginalized communities. Extensive research and needs assessment were conducted to understand the specific educational and employment needs of transgender and intersex individuals. This involved gathering data on existing challenges, available resources, and potential solutions.The website was designed to be user-friendly and inclusive, with features tailored to the needs of the target audience. This included an educational section offering a variety of courses, a job portal for accessing employment opportunities, and an AI-driven chatbot assistant for personalized support. Educational content was curated and developed to cover a range of topics relevant to the target audience, ensuring that the courses offered on the platform were both informative and engaging.The AI-driven chatbot assistant was developed and integrated into the website, utilizing natural language processing algorithms to understand user queries and provide relevant responses.The website underwent rigorous testing to ensure functionality and usability. Feedback from users, including transgender and intersex individuals, was collected and incorporated into the development process to improve the platform's effectiveness.

From conceptualisation to implementation, each stage of the website's development is explored, emphasising its role in providing comprehensive information, assistance, and

resources. Through this walkthrough, readers gain a deeper understanding of how the website aims to empower and uplift intersex and transgender individuals.

II. Problem Statement & Motivation

Transgender people in India face a variety of issues. This discrimination not only denies TG people equal access to key social goods, such as employment, health care, education and housing, but it also marginalizes them in society and makes them one of the vulnerable groups who are at risk of becoming socially excluded. The transgender and intersex communities face multifaceted challenges within the realm of academic research, often leading to significant gaps in understanding and support.

Some major problems faced by these people are:-

1. **Marginalization and Social Exclusion:**Marginalization is at the core of exclusion from fulfilling and full social lives at individual, interpersonal and societal levels. People who are marginalized have relatively little control over their lives and the resources available to them; they may become stigmatized and are often at the receiving end of negative public attitudes. Their opportunities to make social contributions may be limited and they may develop low self-confidence and self esteem and may become isolated. Social policies and practices may mean they have relatively limited access to valued social resources such as education and health services, housing, income, leisure activities andwork. The impacts of marginalization, in terms of social exclusion, are similar, whatever the origins and processes of marginalization, irrespective of whether these are to be located in social attitudes (such as towards impairment, sexuality, ethnicity and so on) or social circumstance (such as closure of workplaces, absence of affordable housing and so on).

   Real life Incident:- As a transgender individual navigating the educational system, the challenges they faced are deeply rooted in the marginalization and stigmatization present in this environment. One significant problem that I is encounter is the heightened level of harassment and discrimination, perpetuated by a system that often fails to acknowledge and address the unique needs of transgender students. The educational institutions themselves contribute to the challenges. The gendered nature of these places becomes apparent in various aspects, such as school uniforms, sports choices, and subject options that are strictly gendered. For instance, the stress induced by conforming to gender norms is evident in the limited choices for girls, who may be directed towards bakery or cooking, while boys are steered towards carpentry. This reinforces a binary and patriarchal framework that exacerbates the stigmatization of gender-nonconforming and transgender students.

2. Impact of Family Reactions on Transgender People: Conflict and Rejection: Transgender people face a number of difficulities within the family. Most families do not accept gendernonconforming behavior in their children, which may manifest as early as three to five years of age. A study by a team from the National Institute of Epidemiology among 60,000 transgender people across 17 states, including Tamil Nadu, found that a large proportion of them receive no support from their biological family For many parents, the news that their child is transgender or gender non-conforming can bring an array of emotions along with it: some feel sad, fearful and disappointed while others feel shocked, angry and upset.

Very few are willing to support their loved ones without trying to make them change**12**. Parents may threaten, scold or even assault their male child for behaving in ways considered girlish or feminine, and their female child for behaving like a boy. They may have several reasons for doing so: fear that a gender-nonconforming child will bring disgrace and shame to the family, apprehension that their child will not marry, perpetuate the family line and/or discharge family responsibilities. Anxious parents attribute gender-nonconformity in children to a variety of causes including mental illness, sexual abuse, confusion, rebellion or poor socialization.

Believing that the best way to help their children thrive as adults is to help them try to fit in with their gender normative peers; seek to make their children conform to their gender assigned at birth through abuse, bullying, threats and medical “treatment”. These reactions undermine the self-esteem and sense of self-worth of gendernonconforming and transgender children.

Real life Incident:- As a transgender individual, the impact of my family's reactions has been profound and challenging. From an early age, my gender non-conforming behavior became evident, and unfortunately, my family's response has been one of conflict and rejection. The news of my transgender identity or gender non-conformity was met with a spectrum of emotions within my family. Some expressed sadness, fear, and disappointment, while others reacted with shock, anger, and upset. Regrettably, only a few members of my family were willing to offer support without attempting to change who I am. The reasons behind my family's negative reactions varied, with some attributing my gender non-conformity to mental illness, sexual abuse, confusion, rebellion, or poor socialization. Unfortunately, this misunderstanding has led to attempts to force me into conformity through abusive measures, bullying, threats, and even misguided medical "treatments."

These reactions have had a profound impact on my self-esteem and sense of self-worth. The constant pressure to conform to societal gender norms has created internal conflicts, making it difficult for me to embrace and express my true identity

3. Harassment of Transgender People in Educational System: The transgender community is a highly marginalized and vulnerable one and is seriously lagging behind on human development index mainly in the area of education. Majority of this community is illiterate or less educated due to which they are not able to participate fully in social, cultural, political and economic activities. Actually educational Institutions are very much gendered place. Stigmatization of gender-nonconforming and transgender children and youth is amplified in the educational system, which mirrors the rest of society in reinforcing strictly binary and patriarchal gender norms. A study done with 50 queer identified PAGFBs in Mumbai reveals that school uniform, certain kinds of sports and a few school subjects, choice of which is gendered, for instance bakery or cooking for girls and carpentry for boys; are sources of immense stress for several Trans-PAGFBs13. According to Indian Census 2011, there are around 4.9 lakh transgender in the country. Census data also reveals that this community has low literacy levels, just 46 per cent transgenders are literate, compared to 74 per

cent literacy in the general population. This community comes under the category “disadvantage group” defined by the Right to Education Act (Indian Express 2014). It means these kids will be eligible for 25 per cent reservation under the economically weaker section (EWS) and disadvantaged student’s category for admission14. The survey, conducted by the Swati Health Resource Centre, analyzed the education and living standards of transgender people living in Maharashtra, Tamil Nadu and Karnataka. It found that 30% of this surveyed had not received an education and 30% were living alone, primarily due to rejection from their families15. There are manyfactors responsible for the low level of education of this community but main reasons are exclusion from family/society, poverty, social stigma and discrimination, insensitive attitude of teachers/staff, violence and sexual abuse.

Real life incident:- As a transgender individual navigating the educational system, the challenges I face are not just academic—they're deeply personal and often overwhelming. The educational environment, which should be a place of learning and growth, can instead become a battleground where my very identity is questioned and invalidated.

From the moment I step into the school gates, I feel the weight of society's gender norms pressing down on me. The school uniform, the choice of sports, even the subjects I'm encouraged to study—all of these reinforce rigid binary gender roles that leave me feeling excluded and invisible. Instead of feeling supported and valued, I'm forced to navigate a system that doesn't recognize or respect my gender identity.

Statistics only confirm what I already know: transgender individuals like myself are lagging behind in education. With just 46 percent of us literate compared to 74 percent in the general population, it's clear that the system is failing us. But the reasons for this educational disparity are complex and deeply entrenched. And once I'm in the classroom, I'm met with an insensitive attitude from teachers and staff who may not understand or acknowledge my identity. The fear of violence and sexual abuse looms large, making it even harder to focus on my studies.
So, when I hear about initiatives like the Right to Education Act offering reservation for economically weaker transgender individuals, it gives me a glimmer of hope. But until the educational system truly recognizes and supports transgender students, we will continue to struggle, left behind and forgotten in a system that should be lifting us up.

4. Poor Economic Conditions and Discrimination in the Workplace: The interrupted education and social exclusion further limits the employment and livelihood opportunities for transgender community. There are several factors responsible for their economic deprivations which are as under:
• Exclusion from Family and Society
• Stigma and Discrimination at work place
• Lack of knowledge and training in vocational skill development
• Lack of opportunities
• Lack of confidence in engaging them by employers
Stigma, discrimination and violence against gender-nonconforming and transgender children in families and school systems, are further compounded by economic marginalization. Those transgender individuals who manage to survive the hostility they encounter as children and youth, find their employment opportunities as to be curtailed, both by the limited formal education many have had, and by stigma and discrimination in recruitment practices of many employers, as well as hostility in most workplaces, absence of gender-appropriate rest rooms, etc.. This leaves many MtF transgender people, especially those from working class backgrounds, with no alternative but begging and sex work. Both MtF and FtM transgender individuals also have to contend with sexual harassment in the workplace, across both formal and informal sectors.

Real life incident:- As a transgender individual trying to navigate the workforce, the challenges I face are not just about finding a job—they're about fighting against stigma, discrimination, and economic marginalization at every turn. Despite my best efforts, the combination of interrupted education, social exclusion, and workplace discrimination leaves me feeling trapped and undervalued.

One of the biggest hurdles I face is the stigma and discrimination that permeate the workplace. From the moment I walk through the door, I can feel the judgmental stares and hear the whispers behind my back. Despite my qualifications and skills, many employers hesitate to hire me simply because of my gender identity. This lack of confidence in engaging transgender individuals leaves me feeling rejected and hopeless.

Even if I do manage to secure a job, the challenges don't end there. The lack of gender-appropriate restrooms and the presence of hostile attitudes in the workplace create a toxic environment where I constantly feel on edge. And for transgender individuals like myself who come from working-class backgrounds, the options are even more limited. Without access to formal education or vocational training, many of us are left with no choice but to turn to begging or sex work just to survive.

But perhaps the most insidious aspect of all is the prevalence of sexual harassment in the workplace. Whether it's in formal sectors or informal settings, transgender individuals like myself are all too often subjected to unwanted advances and inappropriate behavior. Instead of feeling safe and respected, I'm forced to navigate a minefield of harassment and abuse, further eroding my sense of dignity and self-worth.

Despite these immense challenges, I refuse to give up hope. I know that I have skills and talents to offer, and I deserve the same opportunities as anyone else. But until society recognizes the value of transgender individuals in the workforce and takes concrete steps to address discrimination and economic marginalization, the uphill battle will continue.

5. Problems of Homelessness: The myriad problems facing Transgender people who are homeless include a lack of housing and services that meet their specific needs. They are living on city’s streets because they were thrown out of their homes for being queer, or ran away to escape an abusive situation. Family housing in the shelter system across the country is not available for homeless same-sex couples. Transgender people are not allowed to choose with which gender they are more

comfortable living in the shelter system. Abuse and harassment of Transgender homeless people is rampant in the shelter system. Most domestic violence shelters do not accept gay men or transgender people. There has been also a lack of any comprehensive plan for longterm
housing for people with AIDS. Homeless Transgender youth are without economic support, often engage in drug use and risky sexual behaviors, and often develop mental health disorders. Homeless Transgender youth miss out on education and social support during critical formative years —more than half of homeless Transgender youth report experiencing discrimination from peers.

Real life incident:-As a transgender individual facing homelessness, the challenges I encounter are not just about finding a place to sleep—they're about finding safety, acceptance, and support in a world that often seems determined to push me to the margins. The lack of housing and services tailored to my specific needs leaves me feeling vulnerable and invisible, forced to navigate a system that doesn't recognize or understand my unique circumstances.

Many of us find ourselves on the streets because we've been rejected by our families for being queer or have fled abusive situations. But even once we're homeless, the challenges don't end there. The shelter system, which should be a refuge for those in need, often feels like just another battleground where we're subjected to abuse and harassment. We're not allowed to choose which gender we feel more comfortable living with, and the lack of understanding and sensitivity from shelter staff only compounds our sense of isolation and despair.

For transgender individuals like myself, finding a safe place to stay can feel like an impossible task. Most domestic violence shelters don't accept gay men or transgender people, leaving us with few options for escape. And even when we do find temporary shelter, the lack of any comprehensive plan for long-term housing means that we're left in limbo, with no stable place to call home.

But perhaps the most heartbreaking aspect of all is the impact that homelessness has on transgender youth. Without economic support or access to education, many of us turn to drugs and risky behaviors just to survive. And as if that weren't enough, the discrimination and harassment we face from our peers only compound our sense of alienation and despair.

III. OBJECTIVE

The project aims to bridge the gap between the transgender/ intersex community and society by promoting inclusivity, raising awareness, advocating for equal rights, providing support services, fostering understanding, and creating a more accepting environment. Its objectives vary based on educational, advocacy, or support-driven approaches, ultimately striving to address systemic barriers and biases for full participation and acceptance.

IV. LITERATURE REVIEW

Angels Balaguers et al addresses RAG[2] pipeline consists of multiple stages, including extracting information from PDFs, generating questions and answers, using them for fine-tuning, and leveraging GPT-4 for evaluating the results. to the intersection of queer theory and artificial intelligence (AI). There are two common ways in which developers are incorporating proprietary and domain-specific data when building applications of Large Language Models (LLMs): Retrieval-Augmented Generation (RAG) and Fine-Tuning. RAG augments the prompt with the external data, while fine-Tuning incorporates the additional knowledge into the model itself.

Aditi Singh (2024) et al introduces MindGuide[1] leverages the capabilities of LangChain and its ChatModels, specifically ChatOpenAI, as the bedrock of its reasoning engine. The system incorporates key features such as LangChain's ChatPrompt Template, HumanMessage Prompt Template, ConversationBufferMemory, and LLMChain, creating an advanced solution for early detection and comprehensive support within the field of mental health.

V. METHODOLOGY

This section covers the data collection, details about the selected model, the data sources of RAG pipelines, and integration with the FastAPI for web deployment. We are also going to introduce tools and agents also that are responsible for scraping data and using agents we are going to implement the API. UnitedGen is a web application so without the frontend the application is not ready for user interface reaction. Hence, in order to provide the frontend to the python web server we will be building our frontend application in NextJS.

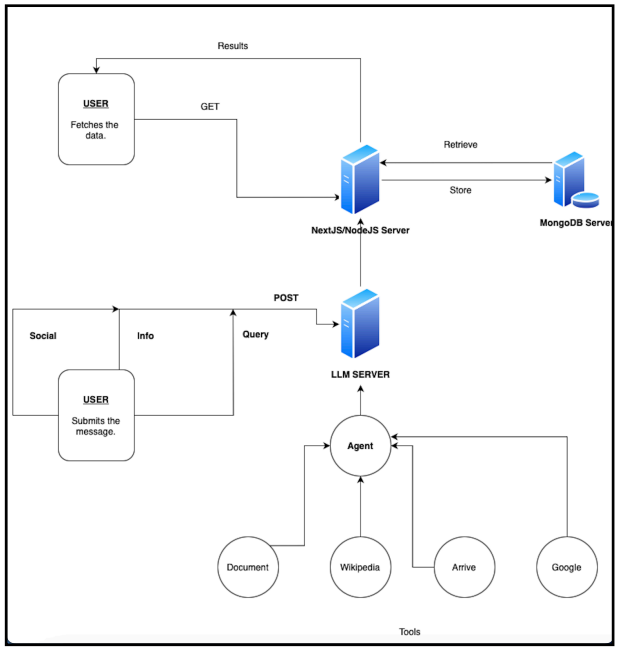


Fig. 1 *(Flowchart)*

Description: The figure above demonstrates how the working of our application would be done. The user would submit the data with (social, info or query) to the LLM server and then output from the LLM server would be sent to NodeJS server which stores and fetches data from MongoDB server to user display.

A. Data Collection

To gather data from user we majorly expect the type of the problem that the user would be giving us. In this paper we have used three types of problems:-

1. Social: Asking for experiences of other people using social media platforms and other articles.
2. Information: Enquiring about any topic or information that may have doubt in or require awareness.
3. Query: These types of problems are solely questions that one might ask to solve. They might personal or social also.

Along with these three types of information we ask for the use message that user wants to give to LLM. We in backend prompt the message such way that it gives answers relevant to Indian citizens.

B. Large Language Model

We had two options to choose from either we could go for the paid LLM models such GPT-4[1] or any open source model. In order to make the app run locally also and free of cost we chose a famous open source LLM model Llama2[3]. Llama would get the message with an additional prompt from the user generate some output. But due to its lack of information it might fail to generate some outputs efficiently. This is the problem we solve using our RAG pipeline. LLama2 is an open source LLM model which is very powerful for generating embeddings and using it as an AI chatbot for conversations.

"Llama2 Large Language Model" (LLM) could potentially refer to an advanced version or iteration of a language model inspired by llamas. In the realm of artificial intelligence and natural language processing (NLP), a large language model is a type of machine learning model trained on vast amounts of text data to understand and generate human-like text.

Here's what "Llama2 Large Language Model" could entail:

1. Training Data: The Llama2 LLM would be trained on extensive datasets comprising diverse text sources, including books, articles, websites, and other written materials. These datasets would likely include information about llamas and related topics, allowing the model to understand context-specific nuances and generate relevant text.

2. Model Architecture: The architecture of the Llama2 LLM would involve advanced neural network structures optimized for processing and generating text data. These architectures could include variants of transformer models, such as the GPT (Generative Pre-trained Transformer) architecture, which has been widely used in large language models due to its effectiveness in capturing long-range dependencies in text.

3. Llama-Specific Knowledge: One distinguishing feature of the Llama2 LLM would be its incorporation of domain-specific knowledge about llamas. This could involve preprocessing steps to identify and extract information about llamas from the training data, as well as specialized model components or fine-tuning techniques to ensure that the model accurately understands and generates text related to llamas.

4. Applications: The Llama2 LLM could be applied to various NLP tasks, including text generation, summarization, translation, question answering, and sentiment analysis. For example, it could generate informative articles about llamas, translate llama-related content into different languages, or answer questions about llama behavior and habitat.

5. Ethical Considerations: As with any AI model, ethical considerations would be important in the development and deployment of the Llama2 LLM. This would include addressing biases in the training data, ensuring transparency and accountability in model decisions, and considering the potential societal impact of the model's outputs.

Overall, the Llama2 Large Language Model represents an innovative application of AI technology to understand and generate text related to llamas and their associated domains. By leveraging large-scale data and advanced machine learning techniques, the Llama2 LLM has the potential to advance research, education, conservation efforts, and public awareness related to llamas and their ecosystems.

C. RAG(Retrieval Augmented Generation) Pipeline

Here we introduce RAG pipeline that will solve the issue with our LLM as stated in above section. In order to fine-tune or extend our LLM model we have used LangChain[4] to create tools to extract data and agent to execute the LLM along with the data retrieved from these sources. The tools we used are as follows:-

1. Google Custom Search API
2. Arxiv API
3. Wikipedia API
4. Document Retrieval Custom Tool

Using these tools we are able to form an advanced pipeline which can generate good amount of results. One of the most powerful applications enabled by LLMs is sophisticated question-answering (Q&A) chatbots. These are applications that can answer questions about specific source information. These applications use a technique known as Retrieval Augmented Generation, or RAG.

LLMs can reason about wide-ranging topics, but their knowledge is limited to the public data up to a specific point in time that they were trained on. If you want to build AI applications that can reason about private data or data introduced after a model's cutoff date, you need to augment the knowledge of the model with the specific information it needs. The process of bringing the appropriate information and inserting it into the model prompt is known as Retrieval Augmented Generation (RAG).

LangChain has a number of components designed to help build Q&A applications, and RAG applications more generally.

The RAG (Retrieve, Answer, Generate) pipeline architecture is a framework used in natural language processing (NLP) and question-answering systems. It's particularly effective for tasks like open-domain question answering, where the system must understand and respond to questions without relying on a predefined database or knowledge graph.Here's a breakdown of each step in the RAG pipeline:

1. Retrieve: In this step, the system retrieves relevant documents or passages from a large corpus of text based on the input query or question. Various retrieval techniques can be used, including keyword matching, semantic search, or neural retrieval models like BM25 or dense vector retrievers.

2. Answer: Once the relevant documents or passages are retrieved, the system identifies potential answers within these texts. This step involves understanding the context of the question and the content of the retrieved documents to extract relevant information. Techniques such as named entity recognition (NER), semantic parsing, or machine reading comprehension (MRC) are often employed to identify and extract answers.

3. Generate: In the final step, the system generates a coherent and concise answer based on the information extracted in the previous steps. This could involve paraphrasing or summarizing the extracted information to form a natural language response that directly addresses the input query.

The RAG pipeline architecture allows for modularization and specialization of different components, making it flexible and adaptable to various NLP tasks and domains. It enables efficient processing of large amounts of text data and facilitates accurate and informative responses to user queries. Additionally, each step in the pipeline can be optimized independently, allowing for continuous improvement of the overall system's performance.

D. FrontEnd (NextJS)

In our project we have several paged for different tasks. Our frontend has been divided into two users, the admin and the user. The admin can manage the problems and change their status where as user can only post them.
When we reach our localhost:300 server the first page to pop up is our landing page. On our landing page we have the companies we can collaborate with defined. We have a contact form defined and the main DOM structure is our navigation bar.
The navigation bar has two working links. The account leads us to the page where user can see the problems and as

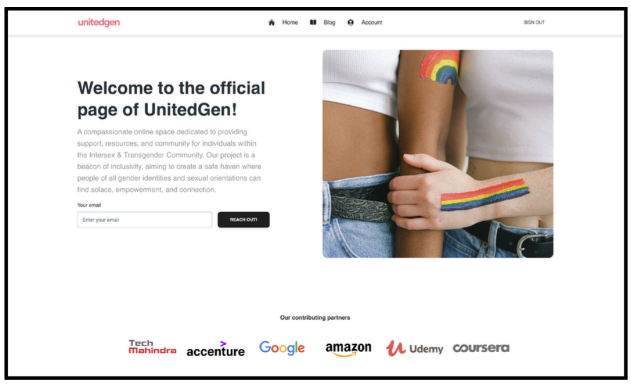
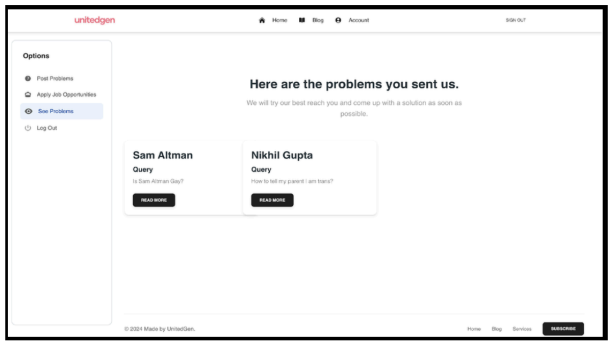


Fig. 2 *FrontEnd (Landing Page)*

Description: *The figure above shows how the landing page of our website would look like. As it can be clearly seen the theme applied corresponds to LGBTQ section and also anyone can reach out to us by simply giving their email. We have also provided our contributing partners. The Navbar above has three navigations and o-auth functionality has also been provided for the security and privacy of the user.*

well as post the problems. As we see the side menu, the button to problem form and to the problems list will be



visible. As to implement responsive design, our side menu

Fig. 3 *FrontEnd (Problems Section)*

Description: *The figure above shows how the problems will be displayed which were sent by the user to us via problem form. We can see the author name, problem type and message that has been sent by the user to us. By clicking the read more button we can get more information about the problem.This screen will only be visible to the Employees handling the backend of our Website.*

boils to dropdown menu with same buttons.
Moving on to our problem form we have author name, title, message, sender's email and we have our problem type as mentioned above. In the problem list section we have cards that make up the brief of problems. The cards have read more button which lead us to more detailed problem description page.

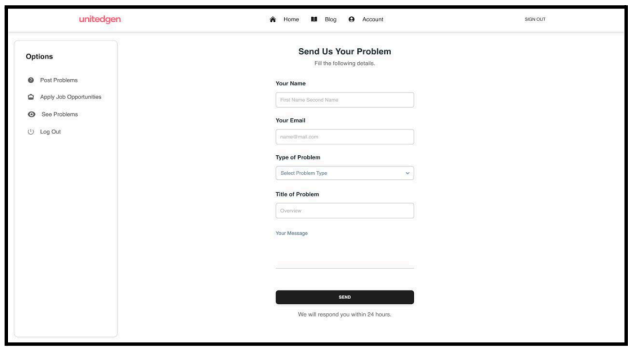


Fig. 4 *FrontEnd (Problems Form)*

Description: *The figure above shows the User Interface That will be shown on the User's screen where the Users through this section can share their problems with us.. We can see the author name, problem type, email, title and message that has been sent by the user to us. By clicking the send button the user can send their message to the LLM server working in the backend.*

The detail page is simple and straight forward, it has title, sender's name and email, message and solution of problem that is sent by the Python Web Server.

Fig. 5 *FrontEnd (Problems Details)*

Description: *The figure above shows the detailed view of the problem when the user clicks the read more button on the problem card on the problem page. We can see the title senders' name, email, type description and the solution to the problem given by the LLM to the user.*

Next.js is a popular React framework that's primarily used for building server-side rendered (SSR) and statically generated (SSG) web applications. It's known for its simplicity, performance, and developer experience. Here are some key features and concepts:

1. Server-side rendering (SSR): Next.js allows you to render React components on the server side before sending them to the client, which improves initial load times and SEO. This is especially useful for content-heavy websites or applications.

2. Static site generation (SSG): Next.js can generate static HTML files at build time, which can then be served directly from a CDN. This approach is great for websites with relatively stable content that doesn't need to be generated dynamically on each request.

3. File-based routing: Next.js uses a file-based routing system, where each React component in the pages directory automatically corresponds to a route in the application. This simplifies the routing setup and makes it intuitive to organize your code.

4. API routes: Next.js allows you to create API routes alongside your pages, making it easy to build backend functionality within the same project. These API routes can handle requests like any other server-side code.

5. Built-in CSS and Sass support: Next.js provides built-in support for importing CSS and Sass files, allowing you to style your components with ease. It also supports CSS modules for scoped styles.

6. Image optimization: Next.js optimizes images automatically, reducing their size and improving performance without sacrificing quality. This is achieved through various techniques like lazy loading and responsive image support.

7. TypeScript support: Next.js has first-class support for TypeScript, enabling you to write type-safe React code and catch errors early in the development process.

8. Incremental static regeneration (ISR): This feature allows you to update static content without having to rebuild the entire site. It's useful for content that needs to be updated frequently but doesn't change on every request.

9. Built-in performance optimization: Next.js comes with several performance optimization features out of the box, such as automatic code splitting, prefetching, and client-side routing, to ensure fast page loads and smooth user experiences.

10. Automatic code splitting: Next.js automatically splits your code into smaller chunks, so only the necessary JavaScript is loaded for each page. This helps reduce initial load times and improve performance, especially on slower network connections.

Overall, Next.js provides a powerful and flexible framework for building modern web applications with React, offering a range of features to enhance developer productivity and user experience.

Message	Tool	Rating(x/5)
What is Transgender?	Google	3
Difference between intersex and trans?	Google	4
Give me some research on Transgender community.	Wiki/Google	2
Tell me about transgender rights?	Google	4
Daily livelihood of trans?	Google	1
Popular trans celebs?	Wiki	3
How can I come out was intersex?	Wiki/Google	4
How tell if someone is trans?	Arrive	3
How I can approach a trans person?	Google	2
Non-Profit Org for LGBTQ?	WIki/Arxiv	4

Table 1 (*Results*)

Description: *The table above shows the results of the questions asked by the user and rating that was given to the answer provided by the LLM itself. We can see three columns message (the message sent by user), Tool (the tool used to scrape information) and Rating (done by the other users).*

VI. RESULTS

In this section, we have provided some results that are generated by our LangChain agent. The table below shows the rating with the output generated of the corresponding prompt or question. Integrating OLAMA with Google Search, Axiv, and Wikipedia enriches the user experience by providing access to up-to-date information. Since OLAMA alone may not offer the latest data, leveraging these additional sources ensures that users receive timely and accurate answers to their queries. This integration expands the scope of available information, enabling users to access a wider range of insights and knowledge. As a result, users can expect more comprehensive and relevant responses to their questions, enhancing the overall utility and effectiveness of the platform. Ultimately the aim is to empower, educate, support, and advocate for these communities, fostering a more inclusive and informed society.

VII. CONCLUSION

Thus, from the above approaches we can conclude that we can create various chatbots and self-help AI in order to solve ones queries and also spread awareness about the whole gender spectrum. We can also train our AI to be gentle and positive towards sensitive citizens. LangChain has comet to be the best tool to fine-tune any model and create chains of prompts, tools and agents which can help developers to create advanced multi-source RAG pipelines.

AI-powered chatbots and virtual assistants can provide accessible information and support related to healthcare, including hormone therapy, surgical options, mental health

resources, and general health and wellness advice. These AI systems can be designed to address the specific needs and concerns of transgender and intersex individuals, providing them with accurate information and guidance in a non-judgmental manner.

AI-driven mental health platforms can offer counseling, therapy, and support groups tailored to the unique experiences and challenges faced by transgender and intersex individuals. Natural language processing (NLP) algorithms can analyze text and speech data to detect signs of distress or mental health issues and provide appropriate interventions or referrals to professional services.

AI-driven social networking platforms and community forums can connect transgender and intersex individuals with peers, support groups, activists, and advocacy organizations. These platforms can facilitate networking, information sharing, and collective action to address systemic issues such as discrimination, violence, and lack of access to healthcare and social services.

AI technologies can be used to develop educational resources, training modules, and awareness campaigns to promote understanding, acceptance, and inclusion of transgender and intersex individuals in society. AI-powered chatbots and interactive multimedia content can deliver tailored information about gender diversity, identity, and rights to diverse audiences, including healthcare providers, educators, policymakers, and the general public.

Overall, AI has the potential to empower and uplift the transgender and intersex community in India by providing them with accessible support, resources, and opportunities for advocacy and social change. However, it's essential to ensure that AI technologies are developed and deployed ethically and responsibly, with careful consideration of privacy, consent, bias, and cultural sensitivity.

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