



BULDR

THE COMPLETE ALL IN ONE APPLICATION FOR ENGINEERS

Background

There are more than 50 registered universities that offer engineering courses countrywide. Every year more than 20,000 students graduate only from IT related Subjects. Although there are a huge number of engineering students, there is no platform built for them to showcase their projects. Designers have dedicated sites like dribble, sketchfab etc. to showcase and even monetize their designs. However, engineers don't have that kind of a platform.

Here at Buldr, we believe that engineering is a form of art. And like any other art, we want our users to portray their creations to others who admire it.



Sites like linkedin provide a platform for job applicants to showcase their skills as well as getting placed at different companies. However, that is not dedicated towards individuals from the engineering background. Companies also can't directly hire them and most of the time have to take multiple levels of assessments. This wastes a lot of resources from the company.

There are a lot of LLMs. However, most of them are general purpose, none of them are pre trained on books and content dedicated towards a particular field.

That's where Buldr Comes in!

Introduction



At buldr, we will be providing our users an all in one application that would let them be more efficient in Learning, Building, Showcasing, Selling and Getting hired.

BuldrAI is a set of pre-trained LLMs that are trained on books and other resources of different engineering domains. This lets users from different engineering backgrounds get solid and accurate answers based on their own curriculum.

We let our users create social media posts, marketplace listings and project showcases for their portfolios at just one edit. Users can create project descriptions and will have the option to list that project to their marketplace for selling.

Buldr-Marketplace provides several microservices along with future support of community microservices as well to manage the products that our users are trying to monetize upon. Currently we plan on having support for a few types of IoT based projects.

Our system also generates custom portfolios for each user based on their project listings and lets them share it with the world.

Scope

The scope of this project is huge as it'll be widely available for everyone to use. Our target audience are engineering students all around the country as well as engineering professionals who want to use our platform to monetize their projects. Also the addition of pluggable microservices makes this platform highly expandable in the future. Our users can create accounts, add their built projects, manage their IoT devices with our pluggable microservices, showcase them in our marketplace, chat with custom trained LLM models that will give them answers according to their curriculum and also have custom generated portfolios for them to showcase and get placed into different companies.

Modules

Account Management Module

This module lets our users create and update their profiles. This info is used to generate their custom portfolios

BuldrAI Chatbot

Based on open-source LLMs like Llama2, we have pre trained some GPT models using the books and resources of different engineering domains

Project Creation Module

This module lets our users create project listings that they can showcase in their socials as well as add to their profiles. Users can also directly send them to the marketplace so that they can monetize their project. AI supported paraphrasing

Social Module

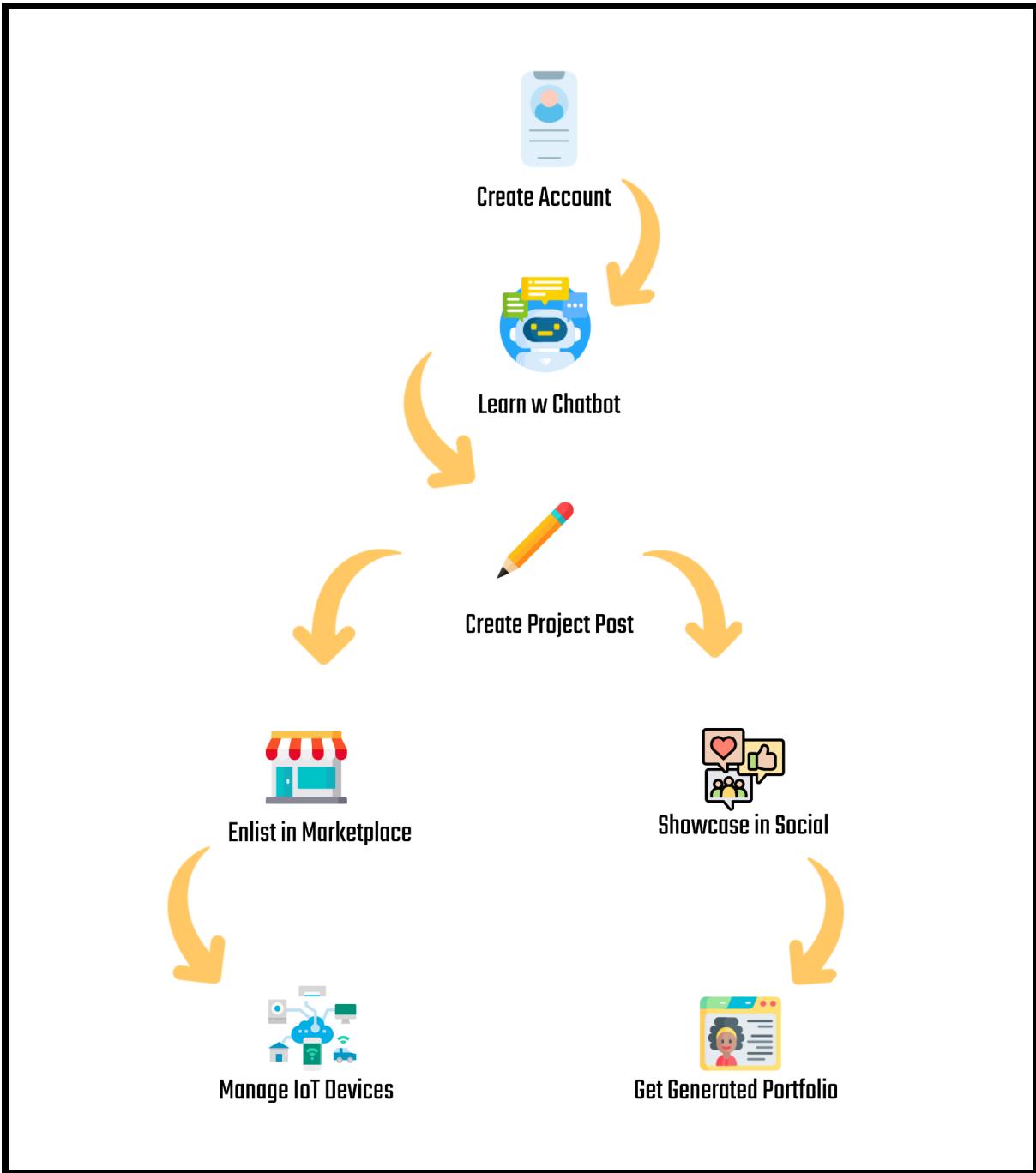
In this section, our users can view projects created by other users to get inspiration and generate new ideas as well as showcase their projects to others.

Marketplace Module

Buldr marketplace is a global space for our users to create project listings and sell them to customers worldwide. We plan on creating auto generated marketplaces for each user in the future.

Generated Portfolio

Each of our users will be given a generated portfolio using their profile information and projects that they have added. They can directly share that to potential employers and get hired



IoT Device Management Modules

Currently we have 3 different pluggable IoT Modules that lets our users control and manage their IoT devices right from our software. The modules that we currently have are as follows :

- (i) Data Collection Bots
- (ii) Personal Survey Drone
- (iii) RFID Based User Authentication

Use-Cases

Account Management Module

- Create account
- Update information
- Preview added projects
- Share generated portfolio

BuldrAI Chatbot

- Open source LLM models used
- Different bots for different engineering domains
- Each bot pre-trained with books from that domain
- Gives answers with sources for better clarity

Project Creation Module

- Create projects with customizable sections with support to
 1. Markdown Text (AI paraphrasing)
 2. Images (AI Image generation)
 3. Videos
 4. Code Blocks

Social Module

- View projects of other users
- Showcase own projects to the world
- Get inspiration for future projects
- Report plagiarism

Marketplace Module

- View and buy projects from others
- Manage own projects in marketplace
- Share link to people outside

Generated Portfolio

- Custom portfolio based on profile
- Choose from different color variants

IoT Device Management Modules

- Manage devices that you own
- Create a pluggable module for own devices
- Customized bot management fo

(i) Data Collection Bots

- Shows mapview of different bots that you have
- Shows collected data by different bots

(ii) Personal Survey Drone

- Live feed of drone directly in browser

(iii) RFID Based User Authentication

- See who visited what location when
- Add/ Remove users from system

- Support for users to create their own modules

Proposed Technology Stack

Backend:

JAVA SpringBoot
Python Flask

Database:

PostgreSQL

Authentication:

Firebase Auth

LLM Model:

Llama-7b model

FrontEnd:

React JS

UI Library:

Tailwind CSS

Containerization:

Docker

CI/CD Pipeline:

Github Actions

Slack

Hosting:

AWS

Render

Team Members

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