Project Details:

Intro:

**Introduction to the Challenge or Project:**

Our team is embarking on an exciting challenge aimed at addressing energy efficiency in the industrial domain. As the industry landscape continues to evolve rapidly, one of the most significant hurdles that companies face is They need funding for their energy and sustainability projects. With help of this solution companies can create more energy projects with ease in finding the necessary fundings and decrease in GFG emissions which can also be edificial to the environment. These will also reduce the operating cost for the companies. This challenge has become a critical bottleneck, hindering progress, and demanding innovative solutions to drive success.

**How Your Team Decided to Solve:**

Our decision to tackle this challenge was driven by a comprehensive analysis of market needs, trends, and the desire to make a meaningful impact. After thorough brainstorming and discussions, we identified several key factors that pushed us toward finding a solution:

1. **Market Demand**: Extensive market research revealed a significant demand for a solution to ease for searching the fundings for energy, there are other methods but that lead to find fundings on different domain and which is unstructured, companies demand a way to find every available program that give funds to according to their size of company and other constraints (like budget) so they can easily select the best one among all other options. Businesses and consumers alike are actively seeking ways to address this issue more effectively.
2. **Competitive Advantage**: We recognized the opportunity to gain a competitive advantage by being the first to provide a comprehensive solution by providing one single platform where the companies browse to and can locate every available funding by providing the details of their criteria. (Like budget, company size). This would position us as industry leaders and open doors to new opportunities.
3. **Innovation Potential**: The challenge at hand is complex, and traditional solutions are either inadequate or non-existent. This presented an opportunity for our team to innovate and create something truly unique.

**Proposed Methodology to Solve:**

Our proposed Agile methodology to solve the challenge involves a dynamic and iterative approach that emphasizes flexibility, collaboration, and customer-centricity. Agile methodologies have proven to be highly effective in adapting to evolving project requirements and customer needs. Here are the key elements of our Agile methodology:

1. **Market Research and Analysis**: We will conduct in-depth market research to gain a deep understanding of the challenge, its nuances, and the specific pain points faced by our target audience. This research will guide our solution development.
2. **User-Friendly Design**: Our team will prioritize a user-centred design which is easy to use and understand, involving potential users throughout the development process. Their feedback and insights will shape our solution to ensure it meets their needs effectively.
3. **Technology Stack**: We have carefully selected a technology stack that aligns with the complexity and scalability requirements of the project. Our chosen technologies include Django framework, Python, HTML/CSS/Bootstrap, MySQL, Xampp. We chose these technologies because of their proven track record in similar projects, scalability potential, and ability to address specific challenges within our solution.
4. **Prototyping and Iteration**: We will develop prototypes and conduct iterative testing to refine our solution continuously. This agile approach will allow us to adapt to evolving requirements and user feedback effectively.
5. **Testing and Quality Assurance**: Rigorous testing and quality assurance procedures will be implemented to ensure that our solution is robust, secure, and performs optimally under various scenarios.
6. **Deployment and Monitoring**: After development, we will deploy our solution, closely monitoring its performance and user adoption. Ongoing updates and support will be provided to maintain its effectiveness.

Our chosen methodology reflects our commitment to addressing the challenge comprehensively and ensuring that our solution is not only innovative but also practical and user-friendly.

**List of Technologies and Reasons for Selection:**

1. **Django**:
   * **Description**: Django is a high-level Python web framework that enables rapid development of secure and maintainable websites and web applications. It follows the Model-View-Controller (MVC) architectural pattern.
   * **Why Chosen**: Django is chosen for its robustness, scalability, and extensive built-in features, such as an ORM (Object-Relational Mapping) system, authentication, and admin panel. It allows for efficient development and maintenance of web applications.
2. **HTML/CSS/Bootstrap**:
   * **HTML (Hypertext Markup Language)**: HTML is the standard markup language used for creating web pages. It defines the structure of web content.
   * **CSS (Cascading Style Sheets)**: CSS is used for styling web pages, controlling layout, and enhancing the visual presentation.
   * **Bootstrap**: Bootstrap is a popular front-end framework that provides a set of pre-designed, responsive CSS and JavaScript components. It streamlines the development of user interfaces and ensures consistency.
   * **Why Chosen**: These technologies are fundamental for web development. HTML defines the content structure, CSS styles it, and Bootstrap enhances the user interface, ensuring a responsive and visually appealing website.
3. **MySQL**:
   * **Description**: MySQL is an open-source relational database management system (RDBMS) that stores and manages data in structured tables. It is known for its reliability, performance, and scalability.
   * **Why Chosen**: MySQL is a widely used database system that offers ACID compliance, making it suitable for data-intensive web applications. It provides data integrity and efficient querying capabilities.
4. **XAMPP**:
   * **Description**: XAMPP is a free, open-source software stack that facilitates the development and testing of web applications locally. It includes components such as Apache (web server), MySQL (database server), PHP (server-side scripting language), and more.
   * **Why Chosen**: XAMPP is chosen for local development and testing environments. It provides an integrated stack of essential web development tools, allowing developers to work on projects offline and test them before deployment.

Our technology choices were made after careful consideration of their compatibility with the project's objectives, scalability, and ability to deliver a robust solution that addresses the challenge effectively.  
  
Team Details:  
  
Team Name: **Coding Comrades**

Details of Team Members:

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| --- | --- |
| Inserting image... | **Param Ramanbhai Patel**  Lead Developer [https://github.com/parampa10](mailto:https://github.com/parampa10)  Skilled in a diverse range of programming languages and technologies, including Java, Python, HTML/CSS, JavaScript, and AI/ML frameworks. Proficient in both front-end and back-end development, with strong problem-solving abilities and excellent communication skills. Experienced in utilizing various development tools and methodologies, from Git and VS Code to OOP and SDLC principles. |
|  | **Neelkumar DeepakBhai Patel**  Backend Developer/Lead QA [https://github.com/NPATEL6551](mailto:https://github.com/NPATEL6551) Having 1 year of professional experience as an Associate Software Engineer. I am proficient in several programming languages such as Java, C, C++, Python, R, CSS, C#, and JSON. I have experience working with database systems such as Microsoft SQL Server and Azure SQL Database. I am also familiar with markup languages like HTML and XML. In addition, I have experience working with software applications such as Microsoft Office, Microsoft Power BI, Microsoft Business Intelligence, Microsoft Power Automate, and Microsoft SharePoint. I am well-versed in various methodologies such as SDLC (Agile, Waterfall, Iterative, Scrum). |
|  | **Gunjan Kumar Kalathia**  Scrum Master/Developer  [https://github.com/gunjankumar141](mailto:https://github.com/gunjankumar141)  Have a strong technical skill set encompassing multiple programming languages such as C, C++, C#, Java, Python, and R. In data analysis, I'm proficient with libraries like Pandas, NumPy, and Matplotlib for effective data manipulation and visualization. My expertise extends to various databases, including MySQL, Oracle Database, MongoDB, and Microsoft SQL Server. I'm well-versed in tools like Selenium for web automation, JUnit for testing, Tableau, PowerBI, Excel, JIRA, Git, and GitHub for project management and collaboration, and I work comfortably in development environments like Visual Studio Code and Eclipse. With Unix Shell scripting knowledge |
|  | **Boond Marwaha**  Business Analyst/Developer  <https://github.com/Boondd>  Have a solid practical background in working with important programming languages like SQL, Python, and R. Additionally, I'm well-versed in statistical analysis and data visualization techniques, and I possess expertise in critical areas such as ETL pipelines, agile methodologies, business process modelling, and lean Six Sigma principles. My strength lies in crafting effective solutions by extracting actionable insights from complex datasets, which ultimately supports data-driven decision-making within the organization. I take pride in being a focused team player and believe that my exceptional analytical abilities, strong interpersonal skills, and problem-solving capabilities make me an asset to any team. |
|  | **Anika Anjum Una**  QA/Developer  [https://github.com/unaanjum](mailto:https://github.com/unaanjum) I possess a diverse skill set that encompasses basic SQL, HTML/CSS, and proficiency in Microsoft Office applications, including Excel, Word, Outlook, MS Project, Visio, and PowerPoint. Furthermore, I have experience in using Bizagi Modeler and Visual Paradigm for process modeling and diagram creation. My analytical skills are well-honed, covering data analysis, statistical proficiency, business analysis, and thorough documentation. I excel in problem-solving and critical thinking, offering effective communication, both written and verbal, to engage effectively with teams and stakeholders. This comprehensive skill set equips me to excel in a wide range of roles, from data analysis and business process management to project coordination and documentation. |

Team agreements:

* Name of the primary contact person – Param Patel [patel4q6@uwindsor.ca](mailto:patel4q6@uwindsor.ca)
* Communication – MS Teams
* Project management tool –   
  **Trello** – Tool used for project management, sprint planning and task assignment   
  **GitHub** – Tool used for Version control.
* Contingency planning
  + Consistently misses meetings:  
    Even after early conversations and attempts to find a solution, if a team member repeatedly skips meetings, the contingency plan entails temporarily dividing their project duties among the other team members. This will guarantee that project milestones and academic goals are accomplished. The group will keep track of missing meetings and keep lines of communication open. If the problem persists, it could be essential to consult the GA or professor for advice or possible project team revisions.
  + Academically dishonest:  
    reporting the occurrence as soon as possible to the professor or other appropriate academic authorities. The team will provide all relevant information for any inquiry, if asked, and work to maintain the project's integrity. The team will also take action to redistribute duties or change project objectives as necessary to lessen the effects of dishonesty while upholding the institution's moral and academic standards.
  + Data Loss or Corruption:   
    In the event that project data is lost or corrupted because of technological problems or human mistakes, the contingency plan would contain methods for data recovery, regular data backups, and maybe adjusting the project's scope to account for data loss.
  + Team Conflict: If there are unresolved conflicts or disagreements within the team, the backup plan may include bringing in a mediator or academic adviser to help with conflict resolution and preserve a positive team culture.

Summary of Kick-off meeting:

**Questions our group asked:**

1. Is there any constraint (security) to store the information?

Ans: Storing information will require security constraints which will be gathered in upcoming meetings.

1. Could you please explain the sentence “the platform will generate traffic to its website as well as build a sales funnel for companies who are interested in pursuing energy projects”?

Ans: The platform is looking forward to attracting more traffic to the website. This can be done through strategies like SEO, etc. Also, the platform will be intending to assist companies interested in energy projects by creating structured processes (sales funnels) that guide potential customers from initial interest to becoming paying clients.

1. is there any authentication system or not?

Ans: There is no requirement for authentication system.

1. How are we going to get the information regarding Funding streams?

Ans: Information on Funding streams are available on an excel spreadsheet. We are approved to search for more funding programs which matches eligibility by the business.

1. For eligibility matching do we have to match the user entered ‘Postal code’ with the location provided (if any) in the funding stream’s eligibility and show only those programs.

Ans: Funding stream’s eligibility can be focused on the province of Ontario. However, more information on matching user’s input through Postal code with funding streams can be gathered in upcoming meetings.

1. how can we get the data for Enbridge and Other funding streams?

Ans: Any data/information regarding Enbridge and Other funding streams are available on their website and on an excel spreadsheet.

**Other Group’s Questions:**

1. Who are the other stakeholders?

Ans: all sizes of commercial companies (e.g., café, franchises).The target users will be companies which start green initiatives and other mass productions.

1. Is there any way to add new funding programs? If yes, then who can do it?

Ans: It would be great if there is a way to add new funding programs with UI rather than using database and doing a manual entry though it is optional.

1. Who will provide the initial funding scheme database?

Ans: Teams can get data from Enbridge programs: Natural Resource Canada: (saveonenergy.ca) and federal programs (Enbridge).

1. Any extra features?

Ans: Bonus: if any team can provide and % profit at the end of the year and % of energy saving .

If user permits we can show promotional advertising.

1. What if new funding programs are available?

Ans: There should be a way to add new programs and companies and fund providers can add new fundings and manual entries are also permitted if there is time for that.

1. Should the UI be similar to what the business has provided?

Ans: No, UI can be changed if the interface is user-friendly and easily understandable.

**Sprint-1**

**Userstory-1**

As an industrial company, we are working on an energy consuming project we want the list of most suitable funding programs for our energy efficiency and sustainability project to cut the operating cost.

Tasks:

1. Research on available funding schemes in Ontario for energy efficiency and sustainability projects.
2. Create a list of funding sources, including eligibility criteria, and other necessary details.
3. Verify the information with business to maintain accuracy.
4. Documentation of sources and references for verified funding scheme.
5. Setup structured database to add collected data into database.
6. Setup data entry interface to add funding scheme information into the database.
7. Perform data categorization, data transformation and data validation to maintain standard and for ease of use.
8. Research and set up a version control system for code management and collaboration.
9. Research and set up collaboration and communication tools for team coordination.
10. Configuration of development environment with the required software and libraries for each developer.