Project Plan for Bangkit 2023 Product-based Capstone

Team ID : C23-PR529

Team Member :

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Final Selected Themes:
Job, Talent, and Employment

Title of the Project:
KerjaKuy : Part-Time Job Finder

Executive Summary/Abstract:
Project Description :

The problem of unemployment in Indonesia is still one of never-ending problems. According to data from BPS (Badan Pusat Statistik) in August 2022 there were around 8.42 million citizens who were recorded as unemployed, which is 5.3% percent of the entire population of Indonesia. There are a lot of factors that cause unemployment, one of which is difficulty in education.

KerjaKuy is an application for unemployed people of productive age especially who have difficulties in education to find a part-time job. This app provides all of the information about part-time job vacancies and provides some tests to help them to find suitable jobs for themself. It is challenging to find jobs especially when you have some difficulties in education and some of the part-time job vacancies are usually spread by word-of-mouth. Therefore it is a need to have a platform to help them find suitable part-time jobs.

How did your team come up with this project?
Based on the data that we found, in Indonesia especially in West Java there are still many unemployed people that have been struggling to fulfill their daily needs. By looking at it we're trying to help Indonesia's government to reduce the number of people with this part-time job seeker's help.

Project Scope & Deliverables:

Date	Scope	PIC (team)	Deliverables
16/05	Collecting Available Datasets	**Machine Learning**	Cases Dataset as Candidate Dataset
	Define Project Requirements	**Cloud Computing**	Features Needed, User Expectations Scalability Requirement
	Design UI/UX and find	**Mobile**	Conducting design research &

		Development	Gathering resources
17/05	Defining Features Required and Collecting/Generating Datasets	**Machine Learning**	Cases Dataset as Candidate Dataset
	Define Project Requirements	**Cloud Computing**	Features Needed, User Expectations Scalability Requirement
	Design UI/UX and find resources.	**Mobile Development**	Conducting design research & Gathering resources
18/05	Defining Features Required and Collecting/Generating Datasets	**Machine Learning**	Cases Dataset as Candidate Dataset
	Define Project Requirements	**Cloud Computing**	Features Needed, User Expectations Scalability Requirement
	Design UI/UX and find resources.	**Mobile Development**	Creating wireframes, Building prototypes, Finalizing designs
19/05	Defining Features Required and Collecting/Generating Datasets	**Machine Learning**	Cases Dataset as Candidate Dataset
	Define Project Requirements	**Cloud Computing**	Features Needed, User Expectations Scalability Requirement
	Design UI/UX and find resources.	**Mobile Development**	Creating wireframes, Building prototypes, Finalizing designs
20/05	Defining Features Required and Collecting/Generating Datasets	**Machine Learning**	Cases Dataset as Candidate Dataset
	Determine Cloud Platform	**Cloud Computing**	Research and Evaluate Different Cloud Platform

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	Design UI/UX and find resources	**Mobile Development**	Creating wireframes, Building prototypes, Finalizing designs
21/05	Data Preprocessing	**Machine Learning**	Clean Datasets Ready for Model Training
	Determine Cloud Platform	**Cloud Computing**	Research and Evaluate Different Cloud Platform
	Design UI/UX and find resources	**Mobile Development**	Creating wireframes, Building prototypes, Finalizing designs
22/05	Data Preprocessing	**Machine Learning**	Clean Datasets Ready for Model Training
	Determine Cloud Platform	**Cloud Computing**	Research and Evaluate Different Cloud Platform
	Finishing User Interface and finishing Main Activity.	**Mobile Development**	Debugging and Testing on UI and Main Activity
23/05	Data Preprocessing	**Machine Learning**	Clean Datasets Ready for Model Training
	Determine Cloud Platform	**Cloud Computing**	Ready-to-use Cloud Platform
	Finishing User Interface and finishing Main Activity.	**Mobile Development**	Add additional features to applications that have been designed
24/05	Research about the Neural Network Architecture	**Machine Learning**	Determining Neural Network Architecture Choice
	Plan the Cloud Infrastructure	**Cloud Computing**	Cloud Service, Create Infrastructure, and Defined Cloud Infrastructure Management Process
	Finishing User Interface and finishing Main Activity.	**Mobile Development**	Add additional features to applications that have been designed
25/05	Research about the Neural Network	**Machine Learning**	Determining Neural Network Architecture Choice

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	Architecture		
	Plan the Cloud Infrastructure	**Cloud Computing**	Cloud Service, Create Infrastructure, and Defined Cloud Infrastructure Management Process
	Finishing User Interface and finishing Main Activity.	**Mobile Development**	Complete the implementation of these features on the designed UI and Main Activity
26/05	Research about the Neural Network Architecture	**Machine Learning**	Determining Neural Network Architecture Choice
	Plan the Cloud Infrastructure	**Cloud Computing**	Cloud Service, Create Infrastructure, and Defined Cloud Infrastructure Management Process
	Finishing User Interface and finishing Main Activity.	**Mobile Development**	Perform integration between features that have been built with APIs or other data sources that have been prepared
27/05	Implementation of the Neural Network Architecture	**Machine Learning**	Implementing the Neural Network Architecture
	Develop the Cloud Infrastructure	**Cloud Computing**	Integrated, and Optimized Application for Cloud Deployment
	Finishing User Interface and finishing Main Activity.	**Mobile Development**	Perform integration between features that have been built with APIs or other data sources that have been prepared
28/05	Model Training	**Machine Learning**	Trained Machine Learning Model
	Develop the Cloud Infrastructure	**Cloud Computing**	Integrated, and Optimized Application for Cloud Deployment
	Finishing User Interface and finishing Main Activity.	**Mobile Development**	Test the app again to make sure all features work properly

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29/05	Model Training	**Machine Learning**	Trained Machine Learning Model
	Develop the Cloud Infrastructure	**Cloud Computing**	Integrated, and Optimized Application for Cloud Deployment
	Finishing Map and Profile Activity.	**Mobile Development**	Completing the appearance and functionality of the Map Activity
30/05	Model Training	**Machine Learning**	Trained Machine Learning Model
	Develop the Cloud Infrastructure	**Cloud Computing**	Integrated, and Optimized Application for Cloud Deployment
	Finishing Map and Profile Activity.	**Mobile Development**	Completing the appearance and functionality of the Map Activity
31/05	Model Training	**Machine Learning**	Trained Machine Learning Model
	Develop the Cloud Infrastructure	**Cloud Computing**	Integrated, and Optimized Application for Cloud Deployment
	Finishing Map and Profile Activity.	**Mobile Development**	Finalizing the look and functionality of the Profile Activity
1/06	Model Evaluation	**Machine Learning**	Evaluated and Finalized Machine Learning Model for Deployment
	Implement Security Measure	**Cloud Computing**	Secure Application and Infrastructure
	Finishing Map and Profile Activity.	**Mobile Development**	Finalizing the look and functionality of the Profile Activity
2/06	Model Deployment	**Machine Learning**	Integration of Machine Learning Model Into Application and Adding more datasets (if needed)
	Implement Security Measure	**Cloud Computing**	Secure Application and Infrastructure
	Finishing Map and Profile Activity.	**Mobile Development**	Perform testing (testing) on both activities
3/06	Model Deployment	**Machine Learning**	Integration of Machine Learning Model Into Application and Adding

			more datasets (if needed)
	Manage Cloud Infrastructure	**Cloud Computing**	Manage Resources, Ensure Availability and Scalability
	Finishing Map and Profile Activity.	**Mobile Development**	Perform testing (testing) on both activities
4/06	Model Deployment	**Machine Learning**	Integration of Machine Learning Model Into Application
	Manage Cloud Infrastructure	**Cloud Computing**	Manage Resources, Ensure Availability and Scalability
	Final Testing and Debugging of The App	**Mobile Development**	Perform debugging and fix bugs if found.
5/06	Model Deployment	**Machine Learning**	Integration of Machine Learning Model Into Application
	Manage Cloud Infrastructure	**Cloud Computing**	Manage Resources, Ensure Availability and Scalability
	Final Testing and Debugging of The App	**Mobile Development**	Conduct final testing to ensure all features work properly and as expected.
6/06	Model Deployment	**Machine Learning**	Integration of Machine Learning Model Into Application
	Manage Cloud Infrastructure	**Cloud Computing**	Manage Resources, Ensure Availability and Scalability
	Final Testing and Debugging of The App	**Mobile Development**	Log and track bugs or errors found during testing.
7/06	Model Deployment	**Machine Learning**	Integration of Machine Learning Model Into Application
	Manage Cloud Infrastructure	**Cloud Computing**	Manage Resources, Ensure Availability and Scalability
	Final Testing and Debugging of The App	**Mobile Development**	Fixed bugs and errors found, and tested again after the fix.
8/06	Model Improvement (If Needed)	**Machine Learning**	Model Alternatives

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	Test and Deploy the Application	**Cloud Computing**	Ensure Infrastructure Function
	Final Testing and Debugging of The App	**Mobile Development**	Ensuring applications can run well on various devices and operating system versions.
9/06	Model Improvement (If Needed)	**Machine Learning**	Model Alternatives
	Test and Deploy the Application	**Cloud Computing**	Ensure Infrastructure Function
	Final Testing and Debugging of The App	**Mobile Development**	Ensuring applications can run well on various devices and operating system versions.
10/06	Model Improvement (If Needed)	**Machine Learning**	Model Alternatives
	Provide Ongoing Support	**Cloud Computing**	Troubleshooting Issues
	Final Testing and Debugging of The App	**Mobile Development**	Keeping code and database backups so that data is not lost in the event of a problem with the server or database.
11/06	Working on final deliverables	**ALL**	Final Product
12/06	Working on final deliverables	**ALL**	Final Product
13/06	Working on final deliverables	**ALL**	Final Product
14/06	Working on final deliverables	**ALL**	Final Product
15/06	Working on final deliverables	**ALL**	Final Product

Project Schedule:

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Task	Timeline Plan	
	Start Date	**End Date**
Machine Learning		
Gathering Datasets	16 May 2023	23 May 2023
Machine Learning Model Research	24 May 2023	26 May 2023
Building Machine Learning Model	27 May 2023	31 May 2023
Testing and Validation	1 June 2023	3 June 2023
Deploying to Cloud and Testing it on App	4 June 2023	7 June 2023
Optional Additions and Final Deliverables	8 June 2023	15 June 2023
Cloud Computing		
Define Project Requirements	16 May 2023	19 May 2023
Determine Cloud Platform	20 May 2023	23 May 2023
Plan the Cloud Infrastructure	24 May 2023	26 May 2023
Develop the Cloud Infrastructure	27 May 2023	31 May 2023
Implement Security Measure	1 June 2023	2 June 2023
Manage Cloud Infrastructure	3 June 2023	7 June 2023
Test and Deploy the Application	8 June 2023	9 June 2023
Provide Ongoing Support	10 June 2023	15 June 2023

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Mobile Development		
Design UI/UX and find resources	16 May 2023	21 May 2023
Finishing User Interface and finishing Main Activity.	22 May 2023	28 May 2023
Finishing Map and Profile Activity.	29 May 2023	3 June 2023
Final Testing and Debugging of The App	4 June 2023	15 June 2023

Based on your team's knowledge, what tools/IDE/Library and resources that your team will use to solve the problem?

Mobile Development : Android Studio, Figma, Github, Visual Studio Code

Machine Learning : Python, Google Colaboratory / Jupyter Notebook, Matplotlib, Tensorflow

Cloud Computing : Google Cloud Platform, Cloud Run, Node.js, REST API

Based on your knowledge and explorations, what will your team need support for?
- Mentors
- Data Source
- GCP Credit
- Google Collab

Based on your knowledge and explorations, tell us the Machine Learning Part of your Capstone!

Machine learning part in our project is used when the application gives a recommendation to the user that's searching for a part time job based on their criteria to the job they are looking for. The recommendation is based on data from personality test results that have been completed by the user too.

Based on your knowledge and explorations, tell us the Mobile Development Part of your capstone?

The mobile developer for a part-time job search app collaborates with the design team to implement UI/UX designs and develops the app using native Android technologies such as Kotlin/Java and Android Studio. The developer also implements various features such as job search, job application, messaging, and payment processing, and ensures the app is

responsive, performant, and scalable. They also integrate third-party APIs and conduct testing and debugging to ensure the app is free of bugs and errors.

Based on your knowledge and explorations, tell us the Cloud/Web/Frontend/Backend Part of your capstone?
The Cloud Computing part of our capstone project is to store and process data for our Applications. We need to create an API (Application Programming Interface) that allows the front-end and back-end to communicate with each other. We will also apply machine learning models that can make applications more efficient when used.

Based on your team's planning, is there any identifiable potential Risk or Issue related to your project?
Inadequate availability and quality of data. We will regularly assess our quality and quantity supporting data set. We will also explore the use of transfer learning or other techniques to complement our unfavorable dataset.

Any other notes/remarks we should consider on your team's application
While working on the capstone project, we may require third party services other than specified.