TERMS OF REFERENCE

Workstream 1: Data Management Platform for the Summit

I. Objective and Scope

The primary objective of this workstream, is to develop and deploy an Artificial Intelligence (AI) driven, web-based Data Management Platform (DMP). This system aims to streamline information and knowledge flow, fostering efficient decision-making and engagement for two distinct user groups:

User Group 1 - High-Level Stakeholders: The DMP will assist in planning and executing the Africa Climate Summit (ACS) by delivering actionable insights based on a wealth of reports, research, and documents related to the five pillars of ACS. By deploying a large language model similar to ChatGPT, the DMP will provide high-level stakeholders with a decision support system. This system will:

1. Aggregate, categorize, and analyze extensive and diverse reports conducted by different entities, offering a consolidated knowledge hub.
2. Offer a chat-like query system for each of ACS's five pillars, enabling stakeholders to access specific, context-aware information swiftly.
3. Deliver cross-pillar analysis to draw parallels and insights across multiple pillars, providing a holistic view of the information landscape.
4. Formulate clear action points based on analyzed data to aid high-level stakeholders in making investment commitments, decision support structures, and identifying priority areas.
5. Integrate with the project support workstream, continually updating the model training set with new projects, insights and information to keep the decision-making process current and relevant.

User Group 2 - Summit Attendees: The DMP will also support general attendees during the summit week, serving as an easily accessible information point to query about the event's specifics and serve as a knowledge hub for matters climate in Africa. The system will:

1. Adapt to a mobile environment to be incorporated into the mobile ACS platform, offering convenience and immediate access to information for the attendees.
2. Utilize publicly available data, ensuring that the information provided does not infringe on any restrictions or sensitivities.
3. **Focus on creating a seamless and intuitive user journey, enabling attendees to gain the most out of the platform with minimal complexity.

The system's scope will cover the design, development, deployment, and maintenance stages, emphasizing effective user experience and smooth integration with other workstreams. The system will ensure robustness, adaptability, and scalability to handle the influx of data and users, maintaining performance and accuracy throughout the ACS.

The project's completion, particularly for the high-level stakeholders, is due by the end of July. This strict timeline requires meticulous planning and execution to ensure a well-functioning, efficient, and user-friendly platform.

II.   Tasks and Activities

1. **Data Acquisition & Preprocessing:** The first task involves identifying and collecting relevant reports, documents, and other data sources related to the five pillars of the ACS. Once gathered, the data should be preprocessed – this includes cleaning, anonymizing (where necessary), and structuring the data for downstream tasks. It also involves ensuring data quality and integrity.

2. **Data Segmentation:** After preprocessing, segment the data according to the ACS's five pillars. This task involves classifying and grouping data based on the thematic area it pertains to, ensuring each pillar's DMP portal has a relevant and comprehensive knowledge base.

3. **AI Model Development & Training:** This task involves creating an AI model, likely a large language model, capable of comprehending and extracting insights from the vast amount of textual data. The model should be able to respond to queries in a conversational manner, similar to a chatbot, providing contextual responses based on the knowledge it gained from the data.

4. **Cross-Pillar Analysis Feature Development:** Here, the team will create an AI feature capable of making connections and drawing insights across different pillars. This requires complex AI processing, capable of seeing the big picture and understanding the intersections and relationships between different data sets.

5. **Action Points Generation:** The AI model should also be trained to generate specific, actionable insights based on the user's query and the model's understanding of the data. These insights can guide decision-making for high-level stakeholders.

6. **Web Application Development:** Concurrently with AI model development, the team will also create the user-facing platform. This task involves developing a web-based application, incorporating a user-friendly interface, secure login system, and integrating the AI model's functionality into the platform.

7. **Mobile Application Integration :** Porting DMP functionalities relevant to summit attendees to the ACS mobile platform, considering factors like user flow, data privacy, and performance.

8. **Testing & Debugging:** Comprehensive testing should occur throughout the project, but a dedicated phase towards the end will ensure that the system functions as expected. This task involves functionality testing, user acceptance testing, performance testing, and security testing.

9. **Deployment & Maintenance:** Once the system has passed the testing phase, it's ready for deployment. This task involves setting up the live environment, migrating the system, and ensuring it runs smoothly. A maintenance plan should also be developed for ongoing updates and support.

10. **Training Material Development & Stakeholder Training:** Develop comprehensive user guides, training materials, and conduct training sessions to ensure both user groups can effectively utilize the system.

III.   Deliverables

1. **Data Management Platform:** A fully-functional, web-based platform equipped with an AI-driven data management and query system. The platform should facilitate a seamless and intuitive user experience, integrating functionalities like secure user

authentication, chat-like query system, cross-pillar analysis, and actionable insights generation.

2. **AI Model:** A large language model trained on the acquired and segmented data. This AI model should be capable of understanding and responding to user queries in a context-aware manner, providing relevant information from the reports. Additionally, it should also be able to provide cross-pillar insights and suggest clear action points for decision-making.

3. **Data Segmentation Map:** A detailed mapping of how the data has been categorized according to the ACS's five pillars. This map should clearly illustrate how the data feeds into the AI model and how it supports the query responses.

4. **Mobile Compatibility Assessment Report & Mobile Module (if applicable):** A report detailing the feasibility of porting certain platform functionalities to a mobile environment, considering aspects like user flow, data privacy, and performance. If deemed feasible and beneficial, a mobile-compatible module or application should be part of the deliverables.

5. **Test Reports:** Detailed documentation of testing processes and outcomes, including functionality testing, user acceptance testing, performance testing, and security testing. These reports should provide clear evidence that the system functions as intended and meets all defined requirements.

6. **Deployment & Maintenance Plan:** A comprehensive plan detailing the steps for deployment, including setting up the live environment and system migration. This plan should also outline strategies for ongoing maintenance, updates, and support post-deployment.

7. **User Guides & Training Material:** Comprehensive, easy-to-understand user guides and training materials that allow users to navigate and utilize the platform effectively. This should include step-by-step instructions, use-case scenarios, and troubleshooting guidelines.

IV.   Timeline

Given the deadline for the entire project is August 31st, and taking into account the specific requirement that the Data Management Platform be available for use by the end of July, the proposed timeline for the tasks is as follows:

1. **Data Acquisition & Preprocessing:** Start immediately after project kick-off, aim to complete by July 5th, 2023.

2. **Data Segmentation:** Overlap with the first task, start on July 1st and complete by July 8th, 2023.

3. **AI Model Development & Training:** Begin on July 9th after data segmentation is complete, target completion date is July 15th, 2023.

4. **Cross-Pillar Analysis Feature Development:** Start this process parallel to AI model development on July 9th and aim to complete it by July 15th, 2023.

5. **Action Points Generation:** Begin on July 16th, immediately after the completion of AI model and cross-pillar analysis feature, aim to finish by July 22nd, 2023.

6. **Web Application Development:** This task should start concurrently with AI Model Development on July 9th. The aim is to have a functional web application ready for integration by July 22nd, 2023.

7. **Mobile Compatibility Assessment & Development (if applicable):** Assessment phase should start on July 16th and finish by July 19th, 2023. If a decision to proceed is made, the development should be completed by July 26th, 2023.
8. **Testing & Debugging:** Begin initial tests as soon as individual components are ready, but dedicate July 23rd to July 29th, 2023 for comprehensive system testing.
9. **Deployment & Maintenance:** System deployment to the live environment should occur on July 30th, 2023, with the subsequent days leading up to August 31st, 2023 reserved for monitoring and maintenance.
10. **Training Material Development & Stakeholder Training:** Development of training materials should be in progress throughout the project but should be finalized by July 30th, 2023.

Workstream 2: Africa Climate Summit Mobile Application

I. Objective and Scope

The main objective of this workstream is to develop an engaging, user-friendly, and robust mobile platform for the Africa Climate Summit (ACS) aimed at enhancing the user experience of various stakeholders including the youth, conference attendees, speakers, investors, and vendors. The platform is envisioned to serve as a primary interactive hub for the summit, with the capacity to tailor experiences based on individual user interests and preferences, seamlessly navigate through the summit's physical and virtual spaces, promote networking, track investment commitments, and support vendor transactions.

The platform's features are expected to be driven by advanced AI technologies, including recommender systems and large language models like GPT, to provide users with a custom, automated, and intuitive experience.

The scope of the platform includes but is not limited to:

1. Offering personalized information to attendees based on their expressed interests.
2. Providing navigation tools, including interactive mapping and direction capabilities, for attendees to smoothly traverse the summit venues.
3. Enabling itinerary planning with scheduling, event and speaker tracking, and conflict resolution functionalities.
4. Facilitating networking opportunities by connecting individuals with similar interests.
5. Establishing a dynamic feed section that can stimulate discussions and link to social media.
6. Supporting speakers by providing a 'Know Your Audience' feature.
7. Tracking investment commitments made during the summit.
8. Facilitating a seamless process for attendees to book and register for SIM cards.
9. Implementing a token-based transaction system for attendees and vendors.
10. Ensuring the platform has capabilities to continually engage users before, during, and after the summit.

The ACS platform aims to significantly enhance the summit experience, drive active participation, and ensure the convenience of all involved parties while keeping a focus on youth engagement and climate discussions.

II. Tasks and Activities

1. **User Profiling & Interest Analysis:**
   - Conduct a user study to understand the best approach for gathering user's interests during registration
   - Design an intuitive and engaging onboarding experience to collect user details and preferences
   - Develop a user profiling system that categorizes users based on their interests
2. **Recommendation Engine Development:**
   - Analyze user interests, behavior, and the summit's event data to design the recommendation algorithm
   - Develop an AI/ML-based recommendation engine that suggests personalized summit content (events, speakers, networking opportunities)

- Test and optimize the recommendation engine to ensure it aligns with user expectations

3. **Event and Speaker Tracking:**
   - Develop a database of all summit events and speakers, complete with tagging and categorization
   - Build a feature allowing users to follow their preferred events and speakers, receiving updates and notifications about them
   - Optimize the tracking feature to provide users with real-time updates even in high-traffic scenarios

4. **Navigation & Venue Mapping:**
   - Collaborate with the summit organizers to obtain detailed maps of all venues
   - Create a real-time navigation feature that provides directions, distance, and estimated travel times between different venues
   - Integrate this feature with the event and speaker tracking system, ensuring users have all the information they need to get to their chosen sessions

5. **Itinerary Planner & Event Summary:**
   - Develop a user-friendly itinerary planning feature that integrates with the tracking and navigation tools
   - For any event conflicts, design a system that records live sessions, generates transcripts, and uses AI summarization to provide brief overviews for the user to review later
   - Enable itinerary adjustments with seamless synchronization with other system components (navigation, tracking, etc.)

6. **Networking Feature:**
   - Implement an AI/ML-based matching system to connect users with similar interests
   - Design a networking interface where users can interact, share information, and plan to meet up during the summit
   - Ensure this feature provides privacy controls and complies with relevant data protection laws

7. **Dynamic Feed & Social Media Integration:**
   - Develop an in-app feed for users to stay updated on relevant topics and participate in discussions
   - Design the feed to foster a sense of community, and integrate it with major social media platforms for easier content sharing
   - Monitor and moderate the feed to maintain a positive and constructive atmosphere

8. **'Know Your Audience' Feature for Speakers:**
   - Build a tool that collects and analyzes data on the audience attending a speaker's session
   - Develop a user-friendly interface for speakers to access these insights, helping them tailor their presentations for their audience
   - Continuously refine this tool based on speaker feedback and changing needs

9. **Investment Tracking System:**
   - Design a transparent and reliable system to record and monitor investment commitments made during the summit

- Enable investors to access and manage their commitments, ensuring they can easily follow through on their pledges
10. **SIM Card Booking & Collection:**
    - Collaborate with local telecom companies to facilitate a smooth and easy SIM card booking process for international attendees
    - Design a system within the app for users to book, pay for, and choose a convenient pick-up location for their SIM cards
11. **Token-based Transaction System:**
    - Develop a secure and efficient system for users to purchase tokens via credit cards
    - Design an interface for vendors to accept token-based payments, track sales, and handle settlements
    - Implement robust security measures to protect financial transactions
12. **Platform Onboarding & User Education:**
    - Develop a comprehensive and engaging onboarding experience that familiarizes users with the app's features
    - Create in-app tutorials, FAQs, and help guides to assist users in navigating and using the platform effectively
    - Continuously update these resources based on user feedback and changes in the app's features
13. **Platform Testing & Iteration:**
    - Conduct extensive alpha and beta testing to identify bugs, performance issues, and areas for improvement
    - Gather user feedback and analytics data to guide iterative improvements in the platform
    - Launch periodic updates to ensure the platform stays relevant, efficient, and user-friendly

    To be added –
    Indoor Navigation using IoT sensors
    Give fancy names like a "Multi Session Attendance AI Assistant" with AI session summarizer

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III.   Deliverables

The deliverables for the workstream will include:
1. **User Profiling and Recommendation Engine**
    - A working model that captures user interests and behavior for personalized recommendations, thoroughly tested for accuracy and reliability.
2. **Event Navigation System**
    - A functional, user-friendly navigation system embedded in the app. Includes interactive maps, directions, and time estimates between events. It should be intuitive and easy-to-use.
3. **Personal Itinerary Planner**
    - A user-friendly itinerary planner with calendar and notification functionalities. Integration of this planner with other features such as the navigation system, event live recording and transcription, and the recommendation engine.
4. **Networking and Social Features**

- A networking feature that tags and matches individuals based on shared interests.
- An engaging feed section that promotes discussions and sharing on topics of interest.
- A 'Know Your Audience' feature for speakers.
5. **Sim Card Booking and Collection Feature**
   - A secure and straightforward feature for booking and collecting sim cards.
6. **Token-Based Transaction System**
   - A secure and user-friendly token-based transaction system for attendees and vendors. This system includes the integration of credit/debit card payment options and a comprehensive settlement system for vendors.
7. **Multi-Language Support**
   - A real-time language translation feature that supports the most commonly used languages by the attendees.
8. ****In-app Mentorship Program**

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   - A fully-functioning mentorship program that allows less experienced attendees to connect with experts based on shared interests and availability.
9. **Platform Onboarding and User Education Resources**
   - Comprehensive onboarding tutorials, FAQs, and help guides within the app to assist users in navigating and using the platform effectively.
10. **Platform Testing and Iteration Reports**
- Regular reports documenting the results of alpha and beta testing, user feedback, analytics data, and iterative improvements made in the platform.
11. **Investment Commitment Tracker**
- A functional feature that tracks all investment commitments made during the summit.
12. **Documentation**
- Detailed documentation explaining the functionality, architecture, and any technical considerations of the above features, written in clear and understandable language. It will help maintain, troubleshoot, or enhance the platform in the future.

Each deliverable should be accompanied by test results, user feedback, and other evidence of effective functioning as a part of the final delivery.

IV.   Timelines

The tentative timelines for the workstream will be as follows:

Phase 1: Project Kick-off and Planning (Week 1)
- Finalize project plans and assemble teams.
- Complete initial meetings with stakeholders.
- Define the detailed scope, milestones, and delivery dates for each feature.

Phase 2: Design & Development (Weeks 1-6)
- **Week 1: User Profiling and Recommendation Engine**
  - Design and implement data collection methods for user profiling.
  - Develop algorithms for the recommendation system.
- **Week 2: Event Navigation System & Personal Itinerary Planner**
  - Design and develop navigation and itinerary features.
  - Embed the navigation system in the app.

- **Week 3: Networking and Social Features**
  - Develop the networking features including tagging and matching algorithms.
- **Week 4: Sim Card Booking and Token-Based Transaction System**
  - Design and implement sim card booking and collection feature.
  - Develop the token-based transaction system.
- **Weeks 5-6: Multi-Language Support, In-app Mentorship Program, and Platform Onboarding Resources**
  - Implement multi-language support.
  - Develop and integrate the mentorship program.
  - Create comprehensive onboarding tutorials and resources.

Phase 3: Testing & Iteration (Weeks 7)
- Conduct alpha and beta testing with selected users.
- Refine the platform based on feedback.
- Finalize all project deliverables.

Workstream 3: Project Development Support Platform

I.   Objective and Scope

The principal aim of this workstream is to develop a comprehensive, efficient, and inclusive platform designed to support the project lifecycle of both carbon project developers and renewable energy developers. This platform's function will extend from the project ideation stage through to financial closure and project commissioning, including but not limited to feasibility assessments, project planning, implementation, monitoring, verification, and selling of carbon credits or power generated.

This platform is intended to serve a vast ecosystem of stakeholders, such as project developers, investors, technical assistance providers, regulatory authorities, technology vendors, local communities, and other key players within the carbon and renewable energy sectors. As such, it is expected to foster effective communication, collaboration, and informed decision-making amongst these diverse groups.

The platform will be designed to integrate seamlessly with existing platforms such as the Africa Climate Summit (ACS) platform. This should include features like project tracking, investor engagement, Technical Assistance (TA) provision, bid management, and several others. This interoperability will allow for improved data sharing and a more unified user experience.

Moreover, this platform will be designed to interface with the data management module for the purpose of ensuring all stakeholders can readily access the necessary data. This could include data on project statuses, investment commitments, bid comparisons, TA offerings, and a multitude of other pertinent details, thereby empowering users to make well-informed decisions.

In essence, the goal is to create an end-to-end solution that provides a comprehensive suite of tools and services to carbon and renewable energy project developers, whilst also fostering a transparent, communicative environment for all involved stakeholders.

II.   Tasks and Activities

The tasks and activities required for this workstream are as follows:

1. **Understanding the Project Lifecycles**: Deeply understand the project lifecycles of both carbon project developers and renewable energy developers. This involves understanding the needs, challenges, and stages each of these project types undergo from ideation to completion, including bankability assessments, bid management, project registration, feasibility studies, PDD drafting, monitoring, verification, and carbon credit issuance (for carbon projects), and financial closure and project commissioning (for renewable energy projects).

2. **Stakeholder Mapping and Engagement**: Identify the different stakeholders involved in the project life cycles (including project developers, investors, technical assistance providers, regulatory authorities, technology vendors, and local communities) and understand their needs, interests, and pain points. Develop mechanisms within the platform for stakeholder engagement and interaction.

3. **Design and Development**: Design and develop a comprehensive platform that can efficiently manage the project life cycles for both carbon and renewable energy projects. This includes a user-friendly interface for project developers, investors, technical assistance providers, and other key stakeholders. The platform should

include features such as project tracking, investor engagement, Technical Assistance (TA) provision, bid management, and other relevant features.

4. **Integration with Existing Platforms**: Seamlessly integrate the developed platform with the ACS platform. This should allow for a smooth flow of data between the platforms, thereby ensuring a unified user experience.

5. **Data Management Integration**: Interface the developed platform with the data management module, enabling easy access to relevant data for stakeholders. This includes data on project statuses, investment commitments, bid comparisons, TA offerings, and other pertinent details.

6. **Testing and Iterations**: Conduct extensive testing of the platform to identify and fix any bugs or issues. This should also include user testing with a small group of stakeholders to collect feedback and make necessary improvements.

7. **Training and Support**: Once the platform is developed, organize training sessions for stakeholders to familiarize them with the platform's functionalities. Additionally, establish a support system to address any queries or issues users may encounter while using the platform.

8. **Launch and Monitoring**: Finally, launch the platform and continuously monitor its usage and performance. Collect user feedback and make regular updates and improvements as needed.

9. **Communication and Collaboration Tools**: Develop and integrate tools within the platform to foster effective communication and collaboration amongst the diverse groups of stakeholders. This could include chat functionality, project collaboration spaces, notification systems, etc.

10. **Data Security and Privacy**: Ensure the platform complies with all data security and privacy laws and best practices. Implement robust security measures to protect the sensitive data of all users and maintain their trust in the platform.

Please note that these tasks and activities are not exhaustive and additional tasks may arise during the execution of the project.

III.   Deliverables

The following are the key deliverables for this workstream:

1. **Project Lifecycle Management Platform**: A fully functional, user-friendly platform that supports the project life cycles of both carbon and renewable energy projects. This platform will integrate with the existing ACS platform and Verst to provide a unified user experience.

2. **Detailed Project Tracking**: The platform should provide the ability to track the progress of a project from ideation to completion. This includes stages such as bankability assessments, bid management, project registration, feasibility studies, PDD drafting, monitoring, verification, carbon credit issuance (for carbon projects), financial closure, and project commissioning (for renewable energy projects).

3. **Stakeholder Engagement Tools**: The platform should incorporate tools to facilitate engagement and interaction amongst various stakeholders such as project developers, investors, technical assistance providers, regulatory authorities, technology vendors, and local communities.

4. **Investor Engagement Module**: A dedicated module for investors to evaluate projects, offer financing (either through debt, equity or carbon forwards), and track their investments.
5. **Technical Assistance (TA) Provision**: A feature to offer TA support to project developers during their project life cycle. This includes support for bankability assessments, project design, bid preparation, feasibility studies, and other critical stages.
6. **Bid Management System**: A system to handle bid management for the projects, allowing project developers and consultants to submit bids, and project developers to compare and accept bids.
7. **Data Management Integration**: A seamless integration with the data management module to provide relevant data to stakeholders in a usable and accessible format.
8. **Testing Reports**: Comprehensive reports detailing the testing process, identified issues, and the resolutions for these issues. This will also include feedback from user testing and iterations made based on this feedback.
9. **Training Material**: Detailed training material to familiarize users with the platform's functionalities. This includes user manuals, FAQs, and other relevant resources.
10. **Data Security and Privacy Compliance**: Documentation demonstrating that the platform complies with all relevant data security and privacy laws and best practices.

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These deliverables should be provided at the agreed-upon milestones during the project's timeline.

IV.   Timelines

Given that we have less than 2 months to execute this project and with the understanding that some functionality can be borrowed from the existing Verst platform, a possible timeline could be as follows:

Week 1-2: Project Kickoff and Planning
1. Conduct a project kickoff meeting to align all stakeholders, agree on communication channels, and define project governance structures.
2. Detail out the project work plan based on the project requirements and deliverables.
3. Identify all necessary resources and map out their responsibilities and timelines.

Week 3-4: Design & Development
1. Begin designing the user interface and user experience for the new platform.
2. Initiate development of the project tracking feature, stakeholder engagement tools, investor module, and bid management system.
3. Begin development of Technical Assistance (TA) Provision feature, leveraging on existing components from the Verst platform.
4. Work on the data management integration aspect, ensuring smooth flow and consistency of data across systems.

Week 5: Testing and Feedback
1. Conduct comprehensive testing on the developed features and functionalities. This includes functional, non-functional, integration, user acceptance, and security testing.
2. Collect feedback from project stakeholders and users.

Week 6: Refinement and Documentation
1. Refine and iterate the platform based on the testing results and feedback received.

    2. Begin development of the training material for the platform, including user manuals, video tutorials, and FAQs.
    3. Prepare and finalize all necessary project documentation.

Week 7: Final Testing and Training
    1. Conduct a final round of testing to ensure all issues have been addressed.
    2. Organize training sessions for the end-users of the platform.
    3. Make final preparations for the platform's launch.

Week 8: Launch and Monitoring
    1. Launch the platform, ensuring all stakeholders are informed of its availability.
    2. Monitor the platform's performance and troubleshoot any arising issues.
    3. Close out the project, ensuring all deliverables have been met and project documentation is finalized.

Thoughts:
We finalize by week 7.

Please note that this timeline is a high-level estimate and may vary depending on the specific project requirements, available resources, and any unforeseen challenges. Regular project reviews should be scheduled to assess progress against the timeline and make adjustments as necessary.

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