###### EviSTI: Web based Knowledge exchange platform/help desk on STI policy matters

**Abstract:** EviSTI is a web-based knowledge exchange platform/help desk on STI policy matters. This will be a one stop point for discrete small pieces of work and on demand large pieces of work relating to use of evidence in STI decision making and STI policy process. The goal is to create an agora/platform that links up knowledge (for example from top scholars in the STI field) and the users of that knowledge (in this case the SGCs).

This is a web-based and object-oriented platform that is made up of 5 major modules which are registration, submission, review, match making and dashboard overview. The platform will be accessible online where the users will be able to utilize different features which include creation of expert profile, upload and post submission requests, review process, match making, dashboard and email notifications. The system will be designed to embed capacity building in the delivery of the services solicited by SGCs.

**Keywords:** EviSTI, STI, SGCs

**Introduction**

There is evidence that the SGCs lack or have inadequate capacity to generate and use evidence in STI policy processes including decision-making. Some Councils for instance have limited staff levels which may limit their opportunity to gather relevant evidence. In addition, they might not have time or capacity to collect and analyze relevant information or data for evidence-based policy processes. It is for this reason that a ‘help desk’ will be established whereby the SGCs can request support for discrete small pieces of work relating to use of evidence in STI decision making and/or the policy process.

Through this platform, the SGCs will manage to solicit and access a broad range of services to improve an evidence based STI policy process including policy review and subsequent decision making. In addition, the experts/consultants will bid for available/submitted services through collection of insights from relevant sources and provide tailor made technical advice and knowledge resources commensurate with the requested service/task.

**System Design**

System design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements.

EviSTI contains about 5 modules which include the user registration/profile, submission and review, M&E dashboard, Match Making and Admin backend. The platform will be designed with proper consideration for user friendliness in user experience (UX) and user interface design (UI). To add functionalities such as registration, submission, review, match making, overview dashboard we will be required to design robust classes for the platform. A class in software development is a template which defines the methods and variables for a given object. The class diagram which illustrates the different classes with their respective methods and variables in EviSTI are shown in Fig. 1

The classes are registration, expert profile, submission/review, M&E dashboard and Admin. They do not serve any meaningful purpose until they are translated into codes that the system must interpret to carry out specific operations. These classes will be implemented through PHP which is one of the most popular web application development tools.

Diagram

Description automatically generated

Figure - EviSTI class diagram

###### How the platform will operate

The service delivery knowledge platform will follow the following steps:

1. Submission/post request

An expression of interest (EoI) for a request of a specific service/task is submitted to ACTS/AfricaLics coordinating unit/Secretariat by SGC. The request may be made using a prescribed EoI form or as a guided online process.

1. Internal evaluation of the EoI

The submission is evaluated by the coordinating team/secretariat against a defined assessment criterion (completeness of information; available expert profiles etc). The applicant receives an approval or request for missing/specific information that would help in the implementation of the task.

1. The EOI phase. This is about advertising the EOI and matching the EOI with an interested consultant. It may include the following stages.

* Planning stage by ACTS as the help desk database operator. This entails among other things the preliminary desk review of the application for the purpose of match making; selection of expert/s and recruitment; coordination of TOR including development of a workplan.
* Commissioning of the task after signing of contract (with ACTS or SGC).
* Monitoring and Evaluation. This will entail among other things validating the quality. This will be done jointly by ACTS and SGC.
* Submission of the report to SGC by the consultant for initial review and subsequent adoption of the final report. This could include an aspect of knowledge sharing or capacity building with the SGC and subsequent activity/exercise closure.

The platform requires a well-structured database. Database design is the process of producing a detailed model of data content of an application. A fully attributed data model contains detailed attributes for each entity. MySQL which is a relational database management system will be adopted for realization of data back-end of EviSTI.

**System Modelling**

To model the behavioral and structural dynamics of EviSTI, Unified Modeling Language (UML) will be adopted. UML is a standardized, general purpose modeling language in the field of software development. It includes a set of graphical notations to create visual models of object-oriented software-intensive systems. This section documents the relevant UML diagrams for capturing the function and structure of EviSTI system. Class diagram is already utilized in system design section (Fig. 1).

**Use Case Diagram**

This UML diagram is used to show the interaction between the system and the actors to capture and communicate user’s requirements. Use Cases are the description of system functionalities written in an organized manner and their relationship with the actors. Actors can be defined as “something” that interacts with the system. The actors can be human user, some internal applications or may be some external applications. Fig. 2 shows the Use case diagram for the platform.

Diagram

Description automatically generated

Figure - EviSTI use case diagram

**Activity Diagrams**

This diagram depicts the dynamic behavior of the system, the activities or workflow and responsibilities of elements that constitute a system. It is object-oriented equivalent of flowcharts and data-flow diagram used in procedural development. It can be used to represent situations where parallel processing may occur in the execution of some activities. Activity diagrams can also be used to analyze a use case by describing what actions need to take place and when they should occur. Activity diagrams that model the workflow by major actors in EviSTI are shown in Figures 3, 4 and 5.

Diagram

Description automatically generated

Figure - Experts activity diagram

Diagram

Description automatically generated

Figure - Reviewers activity diagram

Diagram

Description automatically generated

Figure - Admin activity diagram

**Implementation**

**Conclusion**

**References**