Description of Effort Reporting System Development Schedule Tasks

Rev 9/16/2004
These task descriptions are presented in the order of the Effort Reporting System schedule of 9/16/04 .

Architecture/Design

This set of tasks takes place early in the project and sets the stage for the subsequent detailed technical development work.

- Application Code Design – determination of a code architecture which supports both the presentation design and which provides a structure to make development and ongoing maintenance of the ERS as straightforward as possible. (e.g.,Model-View-Controller, Struts, etc.)
    - o PAR Processing – development of a design to generate effort reports and process them thru the full certification process including notification and reporting.
    - o Security and roles – development of a design to handle tiered security models that incorporate the campus security model and extensions to handle the roles and access required by Effort Reporting System.

- Database Design – design of the database(s) that will support the transaction processing and standard reporting associated with the ERS.
    - o Hire Data Base Designer – hire a consultant to execute the tasks below.

    - o Data Element Definition – define the set of data elements that will be required for the data bases within Effort Reporting System.

    - o Define Batch extract schema- a new task as a result of technical advisory group decision to extract from critical data base tables. This task will define the schemas and tables for the extracts to go "to".
    - o Data Schema design – design the schema and data relationships for the Effort Reporting System data base.

- Presentation Design –User Interface - these tasks encompasses the design of the overall presentation of web pages (screens), navigation, and terminology for the end user while providing flexibility for implementation in the campus portal context.
    - o Hire Graphics consultant – define the skillsets and hire a consultant to define the graphic interface for the Effort Reporting System.
    - o Presentation User Initial Design – this task is to design the initial screen layout, data presentation and navigation for the viewer, reviewer, and

certifier of the effort reports. This design will be reviewed by the requirements committee.

- o Presentation User Revised Design – this task is to update the initial design to incorporate the comments and recommendations from the requirements committee review.

- Presentation Design – Administration – these tasks encompass the design of the overall presentation of the screens and navigation of the administration functions for the Effort Reporting System.
  - o Presentation Admin – initial design – this task is to design the initial screen layout, data presentation and navigation for the administrators of this system, both departmental and central office. This design will be reviewed by the requirements committee.
  - o Presentation Admin – revised design – this task is to update the initial design to incorporate the comments and recommendations from the requirements committee review.

- Data Interfaces – Overall design of interfaces for different data sources needed by the ERS and which allow for implementation of the system in different campus environments.
  - o Financial Data – this task is to design the interfaces to the major financial data bases that are required for the Effort Reporting System These include PPS, cost sharing, Contracts and Grants, A21/PARS(one time) and other financial data unique to a campus.
  - o Security and E-mail Systems – this task is to design the interface to the authentication, authorization and access systems for the campuses. Included in this is the interface to the e-mail systems. These interfaces must be developed to be agnostic to specific systems on each campus.
  - o PPS/PAR System Extracts- This task is to develop and test the PPS/PAR system interfaces for data extract, including the extract schema and validation of all fields.

Development

This set of tasks represents the bulk of the detailed technical development work.

- Data Interfaces – development of the individual interfaces, and associated data quality edits, for retrieval of data needed by the ERS from local campus systems. For cost sharing data, an outbound interface from the ERS to local cost-sharing systems will be needed. In addition to development of interfaces to obtain data from local campus systems on an ongoing basis, a one-time interface from the current A21/PAR system to initially populate the ERS database needs to be developed.

- Web presentation – development of html templates/jsp's style sheets, graphics, etc. that constitute the visible web-based elements of the ERS

- Authorization Rules – development of structures of roles and the authorizations associated with different roles or data contexts (e.g., access to data based on an individual user's department)

- Authorization Administration – development of the mechanism(s) for administering authorization rules.

- Web Navigation – development of "controller" components which direct navigation within the web space.

- Effort Report Generation – development of the mechanisms for the generation of effort reports under different data circumstances:
  - Standard Report – the basic effort report that will be reviewed/certified
  - Exception Report – special effort reports for previously excluded or terminating employees (generated outside of the normal reporting/certification cycle).
  - Re-issuance – generation of effort reports when changes in the planned effort or actual time reported meets the threshold for re-issuance and re-certification of an effort report.

- Notification Creation & Distribution – development of the mechanism which identifies when notification criteria have been reached and which generates notifications to appropriate individuals that effort reports are ready for pre-review, are ready for review/certification, or have been certified.

- Effort Report Search/Selection – development of the mechanism to locate individual effort reports or groups of effort reports (general search, role-based, etc.)

- Online Effort Report Data Changes – mechanism for adding or changing effort detail on an individual effort report

- Online Certifications – development of the mechanism for online certification of effort reports

- Multiple Certifications – development of the mechanism for one individual to certify multiple effort reports.

- Online Exception Data Collection/ - development of the mechanism for collecting data on individuals who received no pay from a sponsored project but are required to certify effort

- Edits – development of the edits associated online data entry/changes

- Reminders – development of the mechanism that provides reminders for needed effort report review and certifications.

- Compliance Monitoring Tools* – development of the reports for measuring current reporting period compliance and comparing with historical compliance data.

- Control/Audit Reports* – development of the various system-level control and audit reports (e.g., system access reports, transaction statistics) that gauge the volume and appropriateness of system use.

- General Reporting* – development of standard reports other than control/audit reports (definition of standard reports is still needed)

- Ad Hoc Reporting* – development of a mechanism to support ad hoc reporting if third-party tools cannot satisfy the need (examples of ad hoc reporting have yet to be defined).

* - Deliverables are only minimally defined in the requirements definition; further definition of the requirements for these deliverables will be needed before any realistic estimate (higher or lower) can be provided.

Testing

- Application Testing – the disciplined testing of the ERS to make sure that all components and associated logic perform as specified in the requirements and to check for good behavior of the system in those circumstances where use of the system occurs in ways that were never intended by the requirements. Includes testing in the different target campus operational environments to verify portability.

- Load/Stress Testing – a load stress/test to identify potential bottlenecks in the application code or database implementation such that these problems can be remedied before the code is released to campuses.

Deployment (Release)

These activities cover the preparation of documentation, training materials, packaging of source code, etc., for the deployment of the ERS to campuses.

- Documentation – preparation of technical documentation describing the system, its components, installation, and operation

- Web-based User Training Materials (Generic) – preparation of a basic web-based user guide and training materials. These user training materials are intended to be

generic in nature and serve as a starting point for campus development of training materials that take into account local business and technical detail.

- Technical Training – Training for campus technical staff about the mechanics of the developed ERS system, as well as local installation and operation. Includes preparation of training materials

- Deployment Packaging – preparation of the developed source code, installation instructions, test plans for campus installation verification, and related documents, and packaging of all of the materials for release to campuses.

Project Management

- Project Management – day to day technical project management, including detailed task planning, supervision of developers, monitoring of progress, problem resolution.

- Campus Coordination – coordination of campus staff participating in the resolution of issues related to clarification of requirements, addressing unanticipated system behaviors, system testing, etc.

Functional Preparation

These tasks are not strictly technical in nature, and do not necessarily require significant technical support to accomplish. These tasks are more about the business of effort reporting, and are shown on this schedule as relevant to the overall goal of making the new effort reporting system work for all system users.

- Policy/Guideline/Procedure Review – Examination of existing University-wide and campus-local policies, guidelines, procedures, to determine whether there are any impediments to implementation of the requirements.

- End-User Training Strategy – development of a strategy for identifying training needs, who should be trained, developing training materials, and carrying out the training of users of the new effort reporting system.

- Common End-User Training Development – actual development of common (university-wide) end-user training materials that can be campus-customized.