Governors State University

Combined and Design

CPSC 8845 – Version X

Revision History

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| Draft | mm-dd-year | First draft | Author(s) name |
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# **Feature Description**

This section provides a high level description of the feature, service or capability. The following are some questions that can be used as a guideline in completing this section:

1. Why is the feature important?
2. What problem does it solve?
3. Does it provide a new service, replace an existing service, or enhance an existing service?
4. What is the service date and applicable generic?

This information should be presentable to customers (i.e. written in business/customer understandable details, not technical details).

## Competitive Information

Identify competitor products or services that this feature will directly compete against, and whether your company has the potential to be the first to market this new feature or capability.

## Relationship to Other Features

Identify whether this feature relates to other features and/or other products. You are mainly focus on DB portion for the project; other part of the project (e.g., Web interface, network capacity) will be done by other team/company.

## Assumptions and Dependencies

* Describe any assumptions made (e.g., new functionality or capability that will provided by other in the same time frame as your feature).
* Identify other features, services, capabilities, and network elements upon which this feature, service, or capability is depend on.
* Also identify the required development and/or changes in customer operational procedures needed to support this feature..

## Future Enhancements

Discuss any planned or possible evolution of the feature. Some project will need to be delivered in phases; this will be the place to document your plan.

## Definitions and Acronyms

Acronym items should be included here. For each special term supply a definition here.

# **Technical Description**

Give a brief overview of feature design and describe the technical make-up of the feature. Remember, the main reason for writing this document is to provide sufficient details to the developers who will implement this feature. In this case, it will be your own team. You should focus on data model, data information flow, user interface can be used as starting point, but what are those data and what happen to those data as your users move from one state to another state and where are the data come from and go. It will be easier to fill in other subsection once this is done. Example: Need to look at how "customer data" "feature data" etc in the database will be used by web application.   e.g., when non-customer visit the web site and click the internet service icon: a query is send and retrieved the following info, cable speed options (2M,4M… etc) price(2M-$19.99, 4M-$29.99 etc) from "internet" part of the database, when click package bundle, it will query and retrieve "internet", "phone", and "discount pricing"   part of the database and pass the info to web application for display etc. Need to consider all different kind of usage, thus different combination of customer data query, security check/blocking, data update, data delete , insert new service data , remove discount, etc.

## Database Architecture

Describe which kind of DB architecture using text and/or diagrams.

## Database Information flows

Provide the steps of the usage for this feature. (See above comments)

## Interactions with other Features (if Any)

## Interactions with other Database Elements

List all possible interaction with outside vendor’s database, and what are needed to address these interactions.

## Capabilities

Provide a list of the capabilities need to support this feature. The database must provide capabilities to support business application such as retrieving/adding/deleting/updating employee, customer, cable service, internet service, and phone service data. Payment plan, Billing, Marketing, System security, data integrity audit, routine backup, fault recovery, system update and other associated business and maintenance activities must also be considered to support customer’s day-to-day database applications.

## Risk Assessment and Management

This section is used to identify as early as possible some of the risks that are associated with the introduction of this feature. It should also contain recommendations to eliminate or minimize these risks.

# **Feature Requirements**

## Identification of Requirements

This section provides a brief explanation of the use of named and enumerated requirements to identify and number requirements. Requirements need to be enumerated, but different tools can be used to accomplish this. The following format is an example:

All requirements in this document are marked using a numbering format. Each requirement is numbered using the following format:

**<Company-feature\_id-version function-capability-“ requirement number”>**

**Requirement text is located here (indicated by bold font).**

Explanatory text related to the requirement should also be provided (indicated by non-bold font)

Examples:

**<GSU-feature\_id-version function-capability-000100>**

**The feature must allow new internet download speeds be added, updated, or deleted by a database input command and without the need to upgrade the database.**

**Following residential download speed shall be supported at initial deployment: 120K, 500K, 2M, 4M and 10M.**

Note: 100M download capability will be available to customer in 12/16 timeframe.

Implementation: Mandatory  (Note: could be “optional” in other requirements)

**<GSU-FA2015-1.0 DB-SV-000500>**

**The feature must allow a service be added, updated, or deleted by a database input command and without the need to upgrade the database.**

**Following residential service shall be supported at initial deployment: Cable, Internet, Phone services.**

Note: New Video download service will be available to customer in 12/16 timeframe.

Implementation: Mandatory

## Database

### ***Employee Database***

### ***Customer Database***

### ***Service Database***

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## Operations, Administration, Maintenance and Provisioning (OAM&P)

This is section to describe the capabilities/requirements you will be providing for office personnel to administrate and maintain the integrity of their database (e.g, fault recovery, routine maintenance of the database)

## Security and Fraud Prevention

Replace this section with description and requirement to address internal and external security levels/issues.

## Release and Transition Plan

Explain how the feature will be deployed to customer sites, or from current release to newer release.

# **Design Description**

Replace this section with a description of the feature design. Describe what the design pieces are, and how they work together to accomplish the desired feature functionality. Descriptions of scenarios and data flows may be helpful here.

The format of this section is left to the author’s discretion, to allow whatever method of description the author believes provides the reader with the best understanding of this feature design. Liberal use of diagrams is recommended.

However, it is this section that binds together all of the subsequent sections which describe interface and subsystem impacts.

# **Internal/external Interface Impacts and Specification**

Replace this section with a description of all internal and/or external interface changes. It should provide sufficient detail to begin updating user documentation, External Interface Specifications, and or Application Interface documents. Also describe here the impacts to any data structures that are shared across design units. If this feature design requires persistent data, describe the persistent data here at a high level.

# **Design Units Impacts**

Replace this section with a list of the impacted design units (subsystems). For new products this would be a listing of all new subsystems and would therefore describe the new system architecture. However it is done, the design should clearly reflect how the design units fit together to define the feature. Each subsystem (or design unit) should have its own subsection below. If there are no known impacts to a given subsystem, then that should be explicitly stated. It could be one design unit that covers every requirement, or you could have one design unit to cover customer database requirements, one for feature, and one for employee etc. In this section, please apply/incorporate as many theories, ER/EER model(s), schema, normal forms, hashing, transaction, concurrency, design process etc. (Refer to covered chapters) as you can and explain why you choose each for your design. Prototype each of your design unit if possible. Please note that prototype could be pseudo or actual coding as needed. The database constraints, if any, should also be specified in the design.

## Subsystem (or Design Unit) A

### ***Functional Overview***

Replace this section with a brief overview of the impacts to the functionality of the subsystem (design unit).

### ***Impacts***

Replace this section with the description of the feature impacts on this subsystem. If there are no known impacts, state this. Sufficient detail should be provided to allow for developers to change subsystem documentation as well as the associated software or hardware design.

### ***Requirements***

Replace this section with a list of feature requirements covered by this subsystem (from the set of total feature requirements). Requirements are allowed to be implemented by more than one design unit, in which case the requirement is noted here as being partially implemented by this design unit. However in these cases, one design unit must be assigned responsibility for delivery of the **complete** requirement, i.e. ensuring that the "pieces" of the requirement implementation all come together and the entire requirement is met. If there are no impacts to this subsystem, this section can be omitted.

All requirements covered by the design must be listed with the requirements tag number. It is not necessary to copy the text associated with a requirement number as that will require you to update the design document anytime there is a change in the text.

## Subsystem (or Design Unit) B

# **Open Issues**

This section should be part of the document only when the document is in a draft form

# **Acknowledgements**

This section should include a reference to prior authors, etc. and others who have assisted in the generation of this document.

# **References**

All references should include, author, title of document, doc ID# and issue date.

# **Appendices**

List all appendixes here.