**TITLE IS CENTERD**

By

**First Name Last Name** {as appears in GSU record}

B.A., Southern University, 2012 {previous degree}

GRADUATE CAPSTONE SEMINAR PROJECT

Submitted in partial fulfillment of the requirements

For the Degree of Master of Science,

With a Major in Computer Science



Governors State University

University Park, IL 60484

2020 {graduation year}

ABSTRACT

This section provides a high level abstract of your project, application, service, or capability. The following are some questions that can be used as a guideline in completing this section:

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

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

Table of Content

[***1*** ***Project Description*** 1](#_Toc441855927)

[1.1 Competitive Information 1](#_Toc441855928)

[1.2 Relationship to Other Applications/Projects 1](#_Toc441855929)

[1.3 Assumptions and Dependencies 1](#_Toc441855930)

[1.4 Future Enhancements 1](#_Toc441855931)

[1.5 Definitions and Acronyms 1](#_Toc441855932)

[***2*** ***Technical Description*** 1](#_Toc441855933)

[2.1 Project/Application Architecture 1](#_Toc441855934)

[2.2 Project/Application Information flows 1](#_Toc441855935)

[2.3 Interactions with other Projects (if Any) 1](#_Toc441855936)

[2.4 Interactions with other Applications 1](#_Toc441855937)

[2.5 Capabilities 1](#_Toc441855938)

[2.6 Risk Assessment and Management 1](#_Toc441855939)

[***3*** ***Project Requirements*** 2](#_Toc441855940)

[3.1 Identification of Requirements 2](#_Toc441855941)

[3.2 Operations, Administration, Maintenance and Provisioning (OAM&P) 2](#_Toc441855942)

[3.3 Security and Fraud Prevention 2](#_Toc441855943)

[3.4 Release and Transition Plan 2](#_Toc441855944)

[***4*** ***Project Design Description*** 2](#_Toc441855945)

[***5*** ***Project Internal/external Interface Impacts and Specification*** 2](#_Toc441855946)

[***6*** ***Project Design Units Impacts*** 2](#_Toc441855947)

[6.1 Functional Area/Design Unit A 3](#_Toc441855948)

[***6.1.1*** ***Functional Overview*** 3](#_Toc441855949)

[***6.1.2*** ***Impacts*** 3](#_Toc441855950)

[***6.1.3*** ***Requirements*** 3](#_Toc441855951)

[6.2 Functional Area/Design Unit B 3](#_Toc441855952)

[***6.2.1*** ***Functional Overview*** 3](#_Toc441855953)

[***6.2.2*** ***Impacts*** 3](#_Toc441855954)

[***6.2.3*** ***Requirements*** 3](#_Toc441855955)

[***7*** ***Open Issues*** 3](#_Toc441855956)

[***8*** ***Acknowledgements*** 3](#_Toc441855957)

[***9*** ***References*** 3](#_Toc441855958)

[***10*** ***Appendices*** 3](#_Toc441855959)

# ***Project Description***

Expand your abstract and provide a more detailed description of your project in this section. The following sections describe additional information associated with your feature.

## Competitive Information

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

## Relationship to Other Applications/Projects

Identify whether this project relates to other projects and/or other applications.

## 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 Project).
* Identify other projects, applications, services, capabilities, and any elements upon which this project, application, service, or capability is depended on.
* Also identify required development and/or changes in customer operational procedures needed to support this project.

## Future Enhancements

Discuss any planned or possible evolution of the project. 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.

# ***Project Technical Description***

Give a brief overview of project design and describe the technical make-up of the project. Remember, the main reason for writing this document is to provide sufficient details for your reader and/or the developers who will implement this project. In this case, it will be your own team.

## Application Architecture

Describe system architecture of your project. Using text and/or diagrams.

## Application Information flows

Provide the steps of the user process/usage for this project.

## Interactions with other Projects (if Any)

## Interactions with other Applications

List all possible interaction with other application, and what are needed to address these interactions.

## Capabilities

Provide a list of the capabilities need to support this Project. Example: a database application must provide capabilities to support business application such as retrieving/adding/deleting/updating user data.

## 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 project. It should also contain recommendations to eliminate or minimize these risks.

# ***Project Requirements***

## Identification of Requirements

This section provides a brief explanation of the use of named and enumerated requirements to identify and number requirements. For each requirement, please use the following SMART criteria as guidelines (<https://en.wikipedia.org/wiki/SMART_criteria>):

* **S**pecific – target a specific area for improvement.
* **M**easurable – quantify or at least suggest an indicator of progress.
* **A**chievable – specify what will be accomplished
* **R**ealistic – state what results can realistically be achieved, given available resources.
* **T**ime-related – specify when the result(s) can be achieved.

The following format is an example:

**<Company-Project\_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-GS\_SP2016-1 User-Capability-000100>**

**The project must allow new users to be added, updated, or deleted by the application.**

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

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

This is section to describe the capabilities/requirements you will be providing for your user or customer to administrate and maintain the usage of your project. (e.g., user data backup, fault recovery, routine maintenance ………)

## Security and Fraud Prevention

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

## Release and Transition Plan

Explain how the project will be deployed to customer, or update from current release to newer release.

# ***Project Design Description***

Replace this section with a description of a detailed project design. Describe what the design pieces are, and how they work together to accomplish the desired project 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 project design. Liberal use of diagrams is recommended. You should be able to incorporate your power point slides here as figure or tables, please provide 1-2 pages of detailed text description for each of your slides.

Please also note that, it is this section that binds together all of the subsequent sections which describe interface and functional area 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 Project 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 (functional areas). For new products this would be a list of all new functional areas 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 project. Each functional area (or design unit) should have its own subsection below. If there are no known impacts to a given functional area, then that should be explicitly stated. For your project, it could be only one design unit that will covers all requirements, or you could have multiple design units (e.g., one for web interface, one for your application, and one for maintenance process etc.).

## Functional Area A/Design Unit A

### ***Functional Overview***

Replace this section with a brief overview of the impacts to the functional area.

### ***Impacts***

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

### ***Requirements***

Replace this section with a list of project requirements covered by this functional area (from the set of total Project 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 functional area, 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.

## Functional Area B/Design Unit B

### ***Functional Overview***

### ***Impacts***

### ***Requirements***

# ***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.