

System Analysis and Design

ML-01: A Critical Summary Analysis Report

The Deliverables

As mentioned in the Project Description document, your first task in this term's project is a simple one:

- This task may be simple, but it is critical in getting yourself *off on the right foot* in terms of your understanding of the system and what it needs to do
- To read over and summarize the Project Requirements as delivered by Thorton P. Snodgrass on his new revolutionary system – the **GIORP-5000**
- You should
 - Read and understand the system's description (contained in the project description)
 - Extract what you see as an abbreviated list of the **actual** system requirements
 - I say actual – because as you may notice, Thorton likes to add a lot of somewhat useless, secondary description which really has nothing to do with the requirements
 - Identify any places within the system description where requirements have not been given fully and completely and you believe that they need to be clarified
 - You are identifying the *holes* in the system as it was described to you
 - What these *holes* are will prove to be almost as important in a system's analysis as the requirements themselves
 - You are to produce a report entitled "The GIORP-5000 – A Critical Summary Analysis" containing all of the requirements (and holes) broken down into functional areas for the system. Your report needs to be written according to the SET Reporting Standards and contain the following sections :
 - Project Summary
 - A section giving an overview of what the system is, what it can do, what its purpose is, etc.
 - Make sure to put this section ***in your own words***
 - Requirement Summary
 - This section will contain sub-sections for each of the identified sub-systems within the GIORP-5000
 - Each of these sub-sections will be broken down into a *Known Functional Requirements* sub-sub-section and *Additional Questions about Requirements* sub-sub-section
 - Remember that each sub-system Requirement Summary sub-section has 2 sub-sections itself
 - Each *Known Functional Requirements* sub-sub-sections will be specific to that functional area and may be specified in point form
 - The point-form descriptions need to be complete enough in order to convey the requirement to the reader of your report
 - Each functional area's *Additional Questions about Requirements* sub-sub-section should be used to indicate any *holes* in the requirement or *questions that you have* which you have regarding missing details from the system description regarding that sub-system
 - This will be equivalent to the set of questions that you came up with last semester for Fred in dealing with the Clock Radio
 - Future Considerations section
 - This section will detail any other questions that you may have come up with that need to be considered and asked in a future phase of SDLC (i.e. in the *Design Phase* or the *Implementation Phase*)

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- References section – indicating what documents the reader needs to refer to or that you have made reference to

My Suggestions / Learning Outcomes

As mentioned in the Project Description, the culminating outcome of all of the Milestone deliverables is the SRS document itself. Along the way, you will gain experience in the many facets to Systems Analysis and Design. There are two additional learning outcomes that you will be able to practice in completing this milestone. These outcomes require you to practice skills that you will need in a job setting. Having these skills can and will set you apart from other Software Engineers.

These skills could both be lumped together under the heading of *Critical Reasoning*. But I will identify them as two different skills – they are:

- The ability to sift through mounds of detail and arrive at the heart of the matter
- The ability to recognize and control the urges that the different roles we must take on as a Software Engineer require us to do.

Sifting Through the Mound

- Don't tell him that I told you this, but Thorton is a bit of a blow-hard ... What I mean by that is that when telling you an idea that he has, he likes to overinflate his description by boggling you with terminology and details that really don't matter.
 - As a result, the description of the functional requirements for the GIORP-5000 is 7 pages in length!!
 - Are the requirements of the system that detailed? **NO!**
 - Are the requirements of the system that many? **NO!**
 - Are the requirements of the system that hard to understand? **NO!**
- Part of your job of being the *Analyst* in this case is to sift through the details, the extraneous information, the silly jokes and get to real heart of the requirements of this piece of software!
 - Gaining the ability to *sift through the details* is a skill that we as Analysts all need to develop
 - I suggest that you read, re-read and maybe read again this *Product Description* and develop your own notes on what the requirements really and truly are – *what is it that this system needs to be able to do ?*
 - I suggest that each time you read the product description you make note of your findings – and after reading it a couple of times - consolidate your requirements / questions / etc. in order to produce this *Critical Summary Analysis*
 - The set of requirements you develop from the Project Description will be documented in your Milestone-01 report in the *Requirement Summary Section*

Controlling the Urges

- As you derive the real requirements found within his GIORP-5000 description, you may come up with other questions along the way. This is natural ...
 - It's okay – in fact its great – that you come up with other questions that reading the requirements of this system make you ask!
 - But beware! Each question that you come up with may very well be a question that is best asked in the *Design Phase* of SDLC, or *Implementation Phase* of SDLC.
 - Another skill that we all need to develop as Software Engineers is the ability to control and recognize the different roles that we play in SDLC.
 - So – as you are sifting through and determining the real requirements of this system and questions arise, I suggest that you

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- Jot them down as a sub-point of the requirement that made you think of that question.
- Mark it as a question in your notes to be looked at again and continue on sifting through and finding the requirements. Do not think of that question again until a later point in time.
- Once you believe that you have noted down all of the real system requirements – you will then have a complete set of your extra questions, and they will be found in your notes beside the requirement that caused you to ask the question – this helps put the question into context for you
- At this point, you will need to put on your *Critical SDLC Cap* and try to figure out why you asked that question
- Basically you need to ask yourself :
 - Is this question about something that the system is able to do? Or should be able to do? Will be able to do? Am I asking this question because the current description of the requirement is not clear enough to give you an idea or basic understanding about **what** a functional / processing step in the system needs to do? Am I asking this question because I do not see / understand **why** this requirement has been stated?
 - Not always, but generally, in the cases of **WHAT** and **WHY** questions of this type – you are asking them because the requirements are not clear enough and/or complete enough to give you the high-level understanding of the system that you need to have in order to document the requirements
 - These are the questions that need to be asked and answered in the *Analysis Phase* of the SDLC
 - These are the holes in the requirements and need to be included in your *Additional Questions about Requirements* sub-sub-section of this report
 - Is this question about a particular requirement (or set of requirements) and is the reason I am asking this question because I am interested in **how** this functionality **will** be created?
 - Again not always, but generally in the case of posing a question that is really asking **HOW WILL** something be done – you are really thinking in the Design Phase of SDLC
 - It is still a good question to raise, but when you raise it – you start by saying “I realize that this may be a design question, but <insert question here>. Does this raise the need for any other requirements or refinements on requirements?”
 - The reason you still ask this question is because when you pose a question to yourself, although it may be an design question – it still may be that you asked yourself this question because a requirement wasn’t detailed enough and didn’t give you a clear and complete picture of the system
 - And remember to limit the length of time on the discussion that starts after raising your question ...
 - These are questions and concerns that need to be included in your *Future Considerations* section of this report
 - Is this question about a particular requirement (or set of requirements) and is the reason I am asking this question because I have some ideas on **how** this functionality **can** be created?
 - Again not always, but generally in the case of posing a question that is really asking **HOW** something **CAN** be done – you are really thinking in the Implementation Phase of SDLC
 - It is still a good question to raise, but when you raise it – you start by saying “I realize that this may be an implementation question, but <insert question here>. Does this raise the need for any other requirements or refinements on requirements?”

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- The reason you still ask this question is because when you pose a question to yourself, although it may be an implementation question – it still may be that you asked yourself this question because a requirement wasn't detailed enough and didn't give you a clear and complete picture of the system
 - And remember to limit the length of time on the discussion that starts after raising your question ...
- These are questions and concerns that need to be included in your *Future Considerations* section of this report