Waterfall Hands-On15 points

Directions

In this Hands-On Project, we will begin the first of a series of project planning exercises. You will be required to plan out a project using the Waterfall method. Our focus in this exercise will be to produce business requirements for a project. Through this activity, you will come to understand the major value (and criticism) of the Waterfall method: planning and documentation. This Hands-On will be graded, so be sure you complete all requirements.

Additional Info!

Before starting this assignment, software and cyber students, watch this Waterfall Project workshop, and data students, watch this Waterfall Project workshop.

Requirements

Leveraging what you've learned about the Waterfall method, you will be required to produce one of the key artifacts: Business Requirements. We have provided an example project for you to plan; however, you are welcome to begin planning for a project of your own if you prefer. Either way, you must meet all requirements listed below.

1. Fork the Business Requirements outline located here:
   Sample Business Requirements Download

2. Modify the requirements to fill in detail in the main sections. Your goal is to be as descriptive as possible to avoid confusion. Your resulting document should be around 1500 words.

3. This document should describe all details needed to deliver a project.

4. Imagine that you will turn over this document to another team to develop, do they have all the details they need?

5. Consider that you are accountable for this project, but most likely won't be the one building it, what risks do you see? Describe them.

Example Project:

Feel free to plan any project you like; however, if you need inspiration for a project to design, you may use the following:

● Exeter (your client) is asking you to plan a project to develop a web application which will allow students to connect with like-minded students for projects.

● They would like a student to be able to log into a web application and either post an idea for a project or search for other student's ideas to find something they are interested in working on.

● The students will need the ability to connect with each other and discuss working together. Any options to make the application more social would be valued.

● The client values quality and innovative solution or something that is quick to market. They are looking to you and your team to help define some features that would motivate students to engage in using this platform to connect and build better communication.

● Student feedback is being collected at the end of each course. Make a plan to analyze and report upon the results.

[Project Proposal on Vimeo](#) Notes

Choose a Data-Related Example Project
- Get practice
- Planning your final project
- Discussing new initiatives at your future job
- Winning data contracts

Executive Summary
- Explain WIIFM: What's in it for me?
- Keep it brief
- Discuss the problem you're trying to solve and how you will solve it

Business Objectives
- An objective is a goal
- What are your goals with this project?
- What business need will you meet?
- What value does this project provide?
- Remember, objectives must be measurable
- Be as specific as you can

Background
- What does someone who has no knowledge of the problem or topic need to know to make a decision?
- Cite references if applicable

Scope
- What is a part of this project?
- What is definitely not a part of this project?
- Defining scope prevents scope creep
- Long-running projects
- projects/companies with high turnover

Functional Requirements
- What should your project do?
- How should your project work?

Details to Provide in Functional Requirements
- Programming language
- Analyses
- Description of the data
  - Variables and data types
  - Where is it located?
  - Who owns the data?

- - Any limitations to usin the data "(privacy, clearances, etc.)

Personnel Requirements
- Who will work with you on this?
    - Job titles
    - Specific names if you have them
    - What skills do they need?
    - What role do they fulfill?
    - How many people do you need?
    - Do they all work full time?

Delivery Schedule
- Timeline
- Table or bullet points
- What ar ethe major phases / milestones of a project?
- When will they be completed?

Data
Wrangling
Analysis
Reporting

Estimating Delivery
- Describe every task the needs to be done
- Estimate how long each take will take with the people that are available
- Create an end-date by adding up the time for all the tasks

Assumptions
- Data available
- People healthy
- Programming languages working smoothly
- Receiving timely feedback form your boss

Limitations
- Time
- Personnel
- Scope
- Cost
- Technical details
- Not ideal circumstances

Risks
- Customer no longer wants product
- Covid

- Weather issues

Mitigating Risks
- Other customers
- WFH
- Backup generator

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Project Proposal

Executive Summary
- How does attendance and course completions affect graduation rates at my school?
- Students should graduate from high school or get the equivalent to gain more companies to come into the city to grow opportunities.
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Business Objectives
- What are your goals with this project? More students graduating
- What business need will you meet? To have more labor force
- What value does this project provide? For administrators to understand the corelation

Background
- What does someone who has no knowledge of the problem or topic need to know to make a decision?
    - My audience is knowledgeable in the topic.

Scope
- What is a part of this project?
    - Course completions
    - Graduation rates
    - Attendance
- What is definitely not a part of this project?
    - Anything else

Functional Requirements
- What should your project do?
    - Measure graduation rates from attendance and course competitions

Details to Provide in Functional Requirements
- Programming language
    - Excel, Python, R
- Analyses
- Description of the data

- - Variables and data types
    - %, numbers, data
  - Where is it located?
    - At work
  - Who owns the data?
    - School
  - Any limitations to using the data "(privacy, clearances, etc.)
    - Would have to recode data to avoid privacy issues before using the data

Personnel Requirements
- Resources
  - Counselors
  - TOSA
  - Apex
  - Infinite Campus
- Most of the data pulling has already been done

Delivery Schedule
- What are the major phases / milestones of a project? See below
- When will they be completed? See below

Getting Data - 2 weeks
Wrangling - 3 weeks
Analysis - 3 weeks
Reporting - 1 week

Estimating Delivery
- 12 weeks from now

Assumptions
- Data available
- People healthy
- Programming languages working smoothly
- Receiving timely feedback from your boss

Limitations
- Time
- Personnel
- Scope
- Cost
- Technical details
- Not ideal circumstances

Risks

- Customer no longer wants product
- Covid
- Weather issues

Mitigating Risks
- Other customers
- WFH
- Backup generator