

Understing development process & Risk

The purpose of this exercise is to give you practice exploring development processes and identifying risks when embarking on a project.



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Mahim Choudhury

Boston University

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MET CS 682 ASSSIGNMENT 2

Mahim Choudhury

1. USE THIS TEMPLATE: Please respond by using this Word template, leaving the headings and the gray text unchanged—but exclude the *hints* section (at the end) from your solution.
2. OBSERVE LIMITS: Observe the page and paragraph limitations; however, you may include as many appendices—additional to the required Appendix 1—as you wish. All appendices should be referred to in the main text.
3. USE ChatGPT **but only for Question 1.1.1**. We would like you to answer this question using chatGPT where possible because we feel that this is the way such writing will be created going forward. We want you to practice good use of AI generation, including your verification, re-prompting, editing, and improvement.
4. Document your chatGPT interaction as in Appendix 1 (use Document Map to facilitate navigation). You are also encouraged to do outside research to support your response but use the *References* section as indicated and observe plagiarism rules carefully, including the citation of sources, the use of quotes, and acknowledgement of modifications of external sources.
5. NAME YOUR FILE: Include your last name in the file name of the assignment. (Example: SmithMichael\_CS682Assignment1.docx)

Hints are provided at the end of this document. We will provide feedback comments and will use our best judgement in terms of the evaluation criteria listed.

The Scenario for this assignment is as follows: *BeHealthy* specializes in providing healthy nutrition and food delivery for corporations, specifically targeting small businesses and startups.

The following project characteristics apply—every one of them should influence your response:

1. The CEO believes that *BeHealthy* must prioritize user experience and integrate with social media, but investors want health and safety features to be the top priority, partially to avoid liability exposure—at least for the initial development.
2. Your initial team consists of one experienced systems analyst, a subject area expert, and one developer experienced with programming of this type of system. Five additional developers and two QA personnel are usually needed for this type of project to be delivered in the timeframe of the initial release based on your previous experience of working on similar projects.
3. The initial team reside in time zones with substantial difference. The experienced developer is very talented; however, they have a history of avoiding overtime, even at critical times.
4. To keep costs low, the CEO would like to hire as many offshore developers and QA staff as possible, even though they would probably be in very different time zones, potentially with deep cultural differences. To some degree, allow for pandemics, war, sanctions, and unrest to impact the offshore development team.
5. You are to assume the timeframe of the initial release and or iterations depending on your process selection

# Process

Using the format below, compare the following development processes for this project.

1. Waterfall Process; 2. An iterative (Rapid Application Development) process with 3-4 iterations; 3. Agile Process

## 1.1 Comparison of Processes

For each of these three development processes, provide one strength and one and weakness relative to this particular project. Focus on what you consider the most important strength and weakness of the development process specific to the characteristics of the given scenario. (up to 2 pages of 12-point text)

### Waterfall Strength

Replace this with your response.

### Waterfall Weakness

Replace this with your response.

### RAD Strength

Replace this with your response.

### RAD Weakness

Replace this with your response.

### Agile Strength

Replace this with your response.

### Agile Weakness

Replace this with your response.

## A1.1 (ChatGPT re Comparison of Processes)

Show your most relevant prompt to chatGPT and the response which was most relevant to your solution.

Replace this with your response.

## 1.2 Project Methodology and Roadmap

Provide a process for this project—or, more typically, a combination of processes—that you consider most appropriate. Provide a Roadmap in the form of a Work Breakdown Structure which clearly shows the phases of the process you designate, what is to be completed, and by whom. In this section you do not need to explain your choices, this will be done in the next section. (Up to 1 page of 12-point text)

Replace this with a description of your selected process.

Supply the completed chart begun below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Iteration** | **Phase** | **Objective** | **Duration** | **Notes** |
|  |  |  |  |  |
|  |  |  |  |

## 1.3 Explanation of Process

Explain why the process and the roadmap you selected would work best supporting the characteristics of this project. Integrate the strengths and weaknesses which you described in Section 1.1. We place more weight on this section than on the roadmap itself. (up-to 3/4 page of 12-point text)

Replace this with your response.

# Risk Analysis

## 2.1 Five Risks

Based on the project characteristics provided, identify five risks in this project with the highest potential to affect the SDLC process which you selected in section 1.2. In addition, give each risk a title of two to three words and create a prioritization matrix for the risks. Avoid giving a generic response: focus on this particular system under development and its particular characteristics. (up to 1 page of 12-point text) Note the hints on risks below.

For each of the following, state the underlying risk cause, identify the risk concretely (typically “<this> may happen”), and state the potential impact should the risk materialize.

### Replace this with risk title 1

Replace this with your response—the 3 aspects above.

### Replace this with risk title 2

Replace this with your response—the 3 aspects above.

### Replace this with risk title 3

Replace this with your response—the 3 aspects above.

### Replace this with risk title 4

Replace this with your response—the 3 aspects above.

### Replace this with risk title 5

Replace this with your response—the 3 aspects above.

Complete the chart below with risk titles from above.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Risk No. | Title | Estimated Likelihood of occurrence (L: 1-10) | Estimated impact (I: 1-10) | Estimated cost of managing (M: 1-10) | Priority number (Handled in order lowest to highest)((11 – L)\*(11 – I)\*M) |
|  |  |  |  |  |  |

## 2.2 Selected Risk

Select one of the above risks and provide as below.

Replace this with your response – Risk number and title from above.

## A2.2 (ChatGPT re Selected Risk)

Show your most relevant prompt to chatGPT and the response which was most relevant to your solution.

Replace this with your response.

### 2.2.1 Likelihood

State and explain the likelihood of occurrence of this risk. Use research to support the likelihood of this risk. (up to ½ page of 12-point text)

Replace this with your response.

### 2.2.2 Impact

Explain the concrete impacts on the project of this risk. Use research to support the impact of this risk. (up to ½ page of 12-point text)

Replace this with your response.

### 2.2.3 Risk Type

State whether the risk is primarily organizational or technical and explain. (single sentence)

Replace this with either “organizational” or “technical.”

### 2.2.4 Risk Management

Write an account of how you would concretely mitigate the risk. Explain whether you are proposing risk “conquest” or risk “avoidance”. Consider cost of management vs. impact of risk occurring as a tradeoff. Support your plan with research. (Up to 1 page of 12-point text.)

Replace this with your response.

# References other than chatGPT

Show that you used a wide variety of resources by listing them below and clearly indicating in the body above where you used. Make sure to use proper referencing in your paper. We suggest using APA format, but other formats are fine as long as they clearly distinguish your work from work of others in your response. In general, observe the stated plagiarism rules.

[1] your first reference replaces this

[2] …

# Evaluation

A picture containing text, screenshot, number, parallel

Description automatically generated

**Please do not include this Hints section from your solution.**

# Hints on Process

**Clarity**:

* When you choose an interpretation, an approach, or a technique, an explanation will contribute well here towards clarity, thoroughness
* There is no such thing as a 100% “right” answer to this question. For that reason, it is important that you explain how you made your selection.
* Check for consistency.

**Technical Soundness**

* Understand and outline the key differences between Waterfall, RAD, and Agile processes and explain these thoroughly and clearly within the context of the scenario. The Waterfall, Rapid Application Development (RAD), and Agile processes are referenced in module 2 Part 1.
* Note that RAD and Agile are both iterative in nature.
* Pages 5 through 17 in the textbook will help. The notes and the textbook are not identical: there are many variants on system analysis concepts, and we encourage broad reading and experimentation, this is where research comes in.

**Thoroughness and Coverage**

* Review your solution after completing both part 1 (Development Process) and part 2 (Risk Analysis)—you may uncover additional considerations—as well as check for consistency.
* Research similar business and different SDLC process characteristics to have a better understanding on how they compare and contrast.

**Relevance**

* Reference the specific characteristics of the project in your justification. Don’t be generic. Explain any trade-offs you made developing your recommendation(s).

# Hints on Risks

**Clarity**:

* Risk should be defined precise and to the point stating the issue, what may happen and impact.

**Technical Soundness**

* Show understanding between conquest and avoidance

**Thoroughness and Coverage**

* Use references to support risk identification, likelihood, cost of impact and cost of management.
* Make sure that you explain how you would mitigate the risk, be explicit about whether your strategy is conquest or avoidance—or perhaps a combination.
* Review your entire solution after completing it—you will uncover additional considerations. Check for consistency.

**Relevance**

* A strong solution has to concentrate on real risks rather than on very unlikely situations.