HTL LEONDING

Project Proposal

Pandemic Simulator

Project Name	PanSim
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Contents

1 Introduction

The management bases the decision to approve a project within the scope of a Project Progress Decision of the Decision Gate Project Approved on the project proposal, which is not prepared within the framework of the V-Model. Based on a project or system idea, the acquirer systematically describes the necessity of a project based on feasibility, affordability, market, and economic efficiency criteria. The project proposal processes subjects like the initial situation, existing framework conditions, project objectives and system concepts, chances and risks, and the economic efficiency.
All written text in this color is explanatory and has to be deleted when the document is released. The example given here is only a skeleton. Your text has to be more elaborate and explanatory.

Our team decided to simulate a pandemic to help contain future panedemics more swiftly. During the current corona crisis it has become apparent that we need some way to predict the direction of a pandemic. In terms of feasebility we would first simulate a virus with just numbers and no graphical elements but later on we will incorperate a GUI if it is necessary. Since this is a purely scientific simulation done by students affordability and market and economic efficiency can not be determined. Since there isn't any funding involved in this project there are no risks only opportunities.

2 Initial Situation

The initial situation presents the assessment of the actual situation of an organizational unit or the entire organization of an agency or company. Thus a need for action, which may lead to a product or system vision, is recognizable. The vision may be developed into a project idea. The need for action may be initiated by several project or system ideas. The demonstration of capability gaps (i.e. the difference between the necessary planned capabilities and the actually existing capabilities) in a company or agency may clearly show an urgent need for action in order to increase the efficiency or reduce costs. This need for action is presented as product or system idea, leading frequently to a concrete project proposal. Correspondingly, the determination of the requirement to renew or improve a "technically obsolete" system (so-called "system regeneration") or the recognition of market chances for a new product or system may lead to a project idea. The applicable data must be developed for the project proposal. Research programs or studies may also be the basis for project ideas; they will be concretized in a project proposal.
The basic question could be summarized in German as follows:

- *Die Ist-Fähigkeiten der Organisation (was können wir?)*
- *Die Soll-Fähigkeiten der Organisation (was wollen wir können?)*
- *Ein Soll-Ist-Fähigkeitenvergleich (wo liegen die Defizite?)*
- *Ein Fähigkeitsvergleich nach vorgegebenen Bewertungskriterien*

Example 1. A doctor in a (primary) school examines the primary school students periodically. (S)he must report the results of this examinations and inform parents about medical defects. Sometimes the doctor has to refer students in problematic health condition to specialists.

The creation of the paperwork is time-consuming since the health data collected during the examinations has to be edited several times (once for the reports, once for the parents information, once for referral, etc. The information retrieval concerning the medical history of students is also time-consuming. The time spent on this work would be better used on direct contact time with students.

The documentation of the examinations can be automated. So the reports and further documents will be generated. The medical history will be persisted automatically.

The current corona crisis has shown us that an pandemic cannot be foreseen and needs to be dealt with as fast as possible in order to stop its spread. Currently measures like masks, shields or curfews cannot be tested unless they have shown some effect to stop the spread of a virus. Current Simulations lack the necessary complexity to be realistic enough to test such measures.

3 General Conditions and Constraints

This subject describes the framework conditions to be observed by all stakeholders when the project idea is implemented into concrete measures for realizing the system. Framework conditions, e.g., budget situation, existing know-how, legal provisions, cooperations, commitment to partners and deadlines, may be turned into specifications for project execution. Technical framework conditions, e.g., development environments and platforms, IT infrastructure, applicable standards and regulations, or specifications of off-the-shelf products, lead to additional (non-functional) requirements for system development.

Example 2. The proposed system has to the deal with the following constraints:

- The information about the medical condition of the pupils is strictly confidential.
- The GUI of the information system must be intuitive.
- The application must have a small footprint and a local database.
- A backup concept is mandatory
- The application is multi-language capable (english and german)

The proposed system has to the deal with the following constraints:

- Data acquisition through trustworthy sources.
- No knowledge on the subject.
- Can't be too hard to calculate because we don't have much cumputing power.

4 Project Objectives and System Concepts

In the Subject Project Objectives and System Concepts, the acquirer describes his vision of a new project or system on a high abstraction level. Project objectives and system concepts may concern several aspects, e.g., the introduction of innovations, the definition of objectives (quality, deadline and cost objectives), the operation of the system in its operating environment and the use of new, improved functionalities.

Example 3. The project objectives can be summarized as follows:

- The doctor is documenting the examination results while examining the students
- Input form assists her/him to input information in a structured and easy way
- Common situations (need for vaccinations, check for need of dental brace, etc.) are a one-click-job for the doctor
- Info sheet for parents can be printed right after examination
- Report is a one-click-job at the end of the day

- Results shall be presented as clear and easy readable as possible.
- Infectionrate, Susceptible, Infected, casualties and recovered should be displayed on a graph.
- The calculations must be realistic.
- All initial data for the virus, event probability, etc must be displayed.

5 Opportunities and Risks

The Subject Opportunities and Risks comprises data which are normally prepared in industrial business plans. Frequently, an anonymous market with potential acquirers, which could be interested in the new product or system idea, will be analyzed at first. Therefore, the contents of this subject is characterized by a certain uncertainty or fuzziness. The subjects examines the chances of achieving profit on the market with a specific product or system. In addition to the chances, the risks of failing on the market or sustaining losses with a product or system should be analyzed.

Example 4. The project has the following opportunities:

- The doctor is able to increase his time with his patients.
- The time for bureaucratic work declines.
- The quality will increase

The following risk have to be taken into account.

- Data transfer of studentsÕ master data from legacy systems is problematic.
- There is no information about the legacy systems and their data structure.
- Further there is no information, whether the staff is capable and willing to supply the students master data (names, classes, ...).

The project has the following opportunities:

- Pandemics can be shown simplyfied.
- Gain intel on an incoming pandemic.
- Government support because it helps them.

There are no risks because it is a purely scientific project without funding done by students.

6 Planning

The planning specifies the organizational and commercial project execution and system development aspects. The project organization, e.g., matrix organization and steering committees, and the responsibilities for the decision-making processes within project will be specified. The Project Leader will be appointed, his tasks will be defined. Available resources, funds and specialist personnel will be determined. Start and end date for the project will be specified. The planning can be based on the statements developed in the subject Project Objectives and System Concepts, which makes additional statements on feasibility, funding and schedules.
The following parts must be included:

- *List of major project milestones.*
- *Assign project lead and other outstanding roles to team members.*
- *Give a rough estimate how many resources you need (human resources, licenses, servers, etc.)*

Answer the following questions when preparing this section:

- *When will the project end?*
- *When will the project start?*
- *When will be a first prototype available?*
- *When does implementation work start?*
- *What are the big blocks of work to be done?*
- *Is this work doable in the given period of time?*
- *Do we need any other stuff to make our work (licenses, servers, É)?*

List of major project milestones

- knowledge acquisition.
- Running prototype with first results.
- Output in the form of a graph.
- Data acquisition from existing viruses.

- Scientific results for predicting outbreaks.

Our project will start after the required knowledge as been acquired which is estimated to be around january and will end with the with the start of summer break. First prototype should be available around the end of january. Implementation will start after knowledge acquisition. The core engine of the simulation will be the biggest block of work to be done. We are positive that we can do all the work in the given time.