Unit 3

Planning the Project

项目策划

Part 1

Listening & Speaking

Unit 3

Dialogue: Software Project Planning

Jason: So much work to do.

Kevin: I think we need a formal project plan as our guideline.

Sharon: Yes, the first one is the time, which is one of the most important factors for a project. We need a schedule, especially, the deadline of our project.

Kevin: We have 40 days in total; the requirements acquirement has taken us 5 days already, so there are 35 days left.

Jason: Oh, it sounds really urgent.

Sharon: It seems that we should begin to program as soon as possible, right?

Jason: Although coding is a very central part of a software project, the most important thing is that we must first establish a proper schedule to control our progress and assure our **deployment** on time, I think.

Kevin: Yes. In the requirements phase, we will spend another 3 days to depict, analyze and model the requirements. After that, we will spend 3 days to complete the **architectural design** and it will take 5 days to accomplish the **detailed design**. Because of the effort applied to software design, code should follow with relatively little difficulty, and can be done within one week I think. Testing and **subsequent debugging** can **account for** about 10 days of software development effort.

Sharon: Maybe we can draw our schedule using a **Gantt chart**. It is a visual and effective tool for a project plan.

Kevin: Good idea.

Jason: Actually, testing should not be seen as an activity which starts only after the coding phase is complete, with the limited purposes of detecting failures. [1] Indeed, planning for testing should start with the early stages of the requirement process, and test plans and procedures must be systematically and continuously developed, and possibly refined, as development proceeds. During coding, we can perform the unit testing at the same time. It will save much time and obtain better testing effects I think. Finally, we can perform a validation test by working with the customer to find out if the software developed is valid for the customer and make sure that the customer is getting what they asked for.

[1] Replace with:
Software design is an **indispensable** process which has a significant impact on the next processes in the entire development.

Sharon: By the way, we need three computers and must install the software which the customer requires with a uniform version as developing tools. That is Microsoft Visual Studio 2017 for a development platform and Microsoft SQL server 2016 as a database management system.

Jason: We need a network as well.

Kevin: Ok, I will prepare the development environment for us as soon as possible. Then, we must assign some management responsibilities to everyone. Sharon, you are responsible for document management [2]. Jason, you take charge of change management. And I will be in charge of the Software Quality Assurance. Ok?

[2] Replace with:
1. database management
2. **configuration** management
3. risk management

Jason & Sharon: No problem.

Kevin: Ok, I have **noted** everything which we **referred to** just now, and will complete a project plan within two days.

Exercises

Work in a group, and make up a similar conversation by replacing the statements with other expressions on the right side.

Words

deployment[di'plɔimənt] *n.* 调度,部署 部署
subsequent['sʌbsikw(ə)nt] *adj.* 随后的,继……之后的
debug[ˌdi:'bʌg] *v.* 调试
indispensable[ˌindi'spensəbl] *adj.* 不可缺少的,必需的
configuration[kənˌfigə'reiʃn] *n.* 配置
note[nəut] *v.* 记录

Phrases

architectural design 体系结构设计,概要设计
detailed design 详细设计
account for (在数量、比例方面)占
Gantt chart 甘特图
refer to 提到

Listening Comprehension: Software Project Planning

Listen to the article and answer the following 3 questions based on it. After you hear a question, there will be a break of 15 seconds. During the break, you will decide which one is the best answer among the four choices marked (A), (B), (C) and (D).

Questions

1. How many kinds of planning philosophies are mentioned in the article?
   (A) Two (B) Three
   (C) Four (D) Five

2. How many questions are stated in Boehm's principle for leading project planning?
   (A) Three (B) Five
   (C) Six (D) Seven

3. Which point of view is the most accordant with the idea of this article on the project planning?

(A) Planning every activity in the project as detailed as possible for their foreseeable ability

(B) Carrying out as early as possible regardless of planning, because even the best planning can be obviated by uncontrolled change as the work proceeds

(C) Adjusting different levels of details for activities according to their different locations in the project timeline

(D) Making a perfect plan which can evade changes that may come about during the work

Words

philosophy[fə'lɔsəfi] *n.* 方法
minimalist['miniməlist] *n.* 最低限要求者
argue['ɑ:gju:] *v.* 主张,认为,表明,论证
obviate['ɔbvieit] *v.* 排除,避免
traditionalist[trə'diʃənəlist] *n.* 传统主义者,墨守成规者
agilist['ædʒailist] *n.* 敏捷主义者,机敏者
fruitless['fru:tləs] *adj.* 徒劳的,无用的
recipe['resəpi] *n.* 诀窍
chaos['keiɔs] *n.* 混乱
paper['peipə(r)] *n.* 论文,文章
state[steit] *v.* 陈述,说明
milestone['mailstəun] *n.* 里程碑
resultant[ri'zʌltənt] *adj.* 因此而产生的
managerially[ˌmænə'dʒiəriəli] *adv.* 管理地

Phrases

road map 线路图,(一步一步的)详尽计划
in moderation 适中地
scale down 按比例减少,按比例缩小

Abbreviations

W5HH Why, What, When, Who, Where, How, How much 为什么,什么,什么时候,谁,在哪里,如何,有多少

Dictation: Four Variables in Projects

This article will be played three times. Listen carefully, and fill in the numbered spaces with the appropriate words you have heard.

A project is a carefully defined set of ___1___ that use resources to achieve ___2___ goals and objectives. It is a **finite endeavor** ___3___ specific start and completion dates as well as a managed ___4___ having a range of ___5___, budget and organizational constraints.

It is usually considered that there are four ___6___ variables we will ___7___ in software projects —cost, time, scope, and quality. These four variables affect a project together by ___8___ with each other: increased scope typically means more time and ___9___, a tight time **stress** could mean stronger finance support and **suffered** ___10___, too little money couldn't solve the customer's business problem ___11___ the scope, and a higher quality might deliver longer developing ___12___ and more cost.

It seems that there is not a simple relationship between them. For example, you can't just get software faster by spending more money. As the **saying** ___13___, "Nine women cannot make a ___14___ in one month."

In his book **eXtreme Programming** [1] Explained: **Embrace** Change, Kent Beck says that the solution is to make the four variables ___15___. If everyone — programmers, customers, and managers — can see all four variables, they can **consciously** ___16___ which variables to control. If they don't like the result ___17___ for fourth variable, they can change the ___18___, or they can ___19___ a different three variables to control for ___20___ **ultimately** the project objectives.

Words

finite['fainait] *adj.* 有限的,限定的
endeavor[in'devə] *n.* 努力,尽力
stress[stres] *n.* 压力,紧迫
suffer['sʌfə(r)] *v.* 受损失,受害
saying['seiiŋ] *n.* 谚语,格言
embrace[im'breis] *v.* 掌握,接受,拥抱
consciously['kɔnʃəsli] *adv.* 有意识地
ultimately['ʌltimətli] *adv.* 最后,终于,根本

Phrases

eXtreme Programming 极限编程

Notes

[1] 极限编程(eXtreme Programming,XP)是一种软件工程方法学,是敏捷软件开发中最富有成效的几种方法学之一。如同其他敏捷方法学,极限编程和传统方法学的本质不

同在于它更强调可适应性以及面临的困难,适用于小团队开发。

Part 2

Reading & Translating

Section A: Software Project Plan

A proper project plan is an important **ingredient** for a successful project. Without proper planning, a software development project is unlikely to succeed. Good planning can be done after the requirements and architecture for the project are available. The important planning activities are: process planning, effort estimation, scheduling and **staffing** planning, quality planning, configuration management planning, project monitoring planning, and risk management.

Process planning generally involves selecting a proper process model and **tailoring** it to **suit** the project needs. In effort estimation, overall effort requirement for the project and the **breakup** of the effort for different phases is estimated. In a top-down approach, total effort is first estimated, frequently from the estimate of the size, and then effort for different phases or tasks is determined. In a bottom-up approach, the main tasks in the project are **identified**, and effort for them is estimated first. From the effort estimates of the tasks, the overall estimate is obtained.

The overall schedule and the major milestones of a project depend on the effort estimate and the staffing level in the project and simple models can be used to get a rough estimate of schedule from effort. Often, an overall schedule is determined using a model, and then adjusted to meet the project needs and constraints. The detailed schedule is one in which the tasks are broken into smaller, schedulable tasks, and then assigned to specific team members, while preserving the overall schedule and effort estimates. [1] The detailed schedule is the most **live** document of project planning as it lists the tasks that have to be done; any changes in the project plan must be reflected suitably in the detailed schedule (Figure 3-1).

Quality plans are important for ensuring that the final product is of high quality. The project quality plan identifies all the **V&V** activities that have to be performed at different stages in the development, and how they are to be performed.

The goal of configuration management is to control the changes that take place during the project. The configuration management plan identifies the configuration **items** which will be controlled, and specifies the procedures to accomplish this and how access is to be controlled.

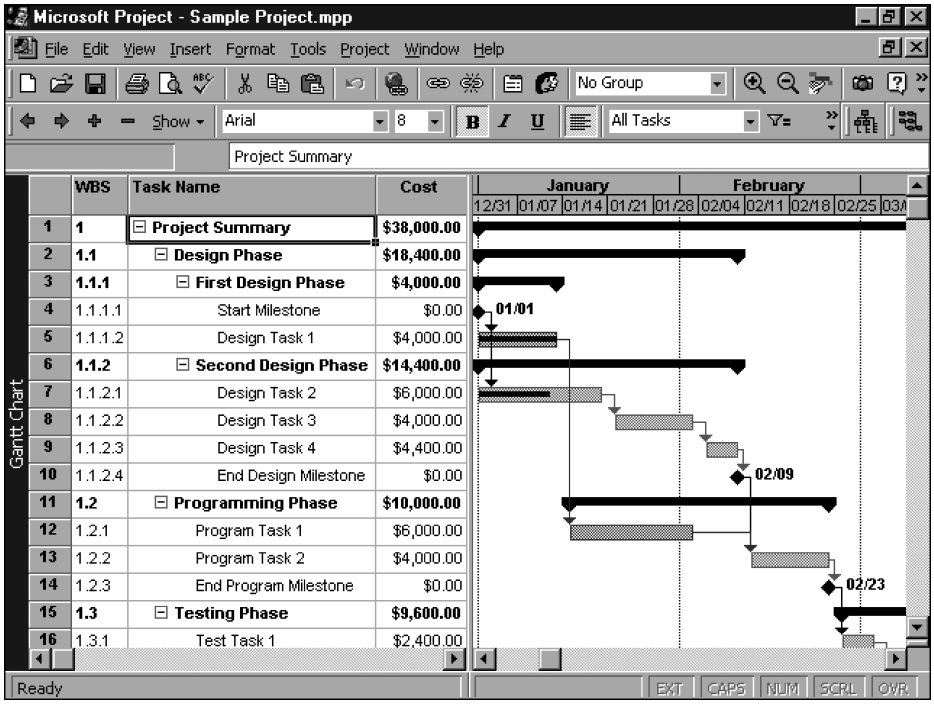

Figure 3-1 Detailed Schedule

Risks are those events which may or may not occur, but if they do occur, they have a negative impact on the project. To meet project goals even under the presence of risks requires proper risk management. Risk management requires that risks be identified, analyzed, and **prioritized**. Then risk **mitigation** plans are made and performed to minimize the effect of the highest priority risks.

For a plan to be successfully implemented it is essential that the project be monitored carefully. Activity level monitoring, status reports, and milestone analysis are the **mechanisms** that are often used. For analysis and reports, the actual effort, schedule, **defects**, and size should be measured. With these measurements, it is possible to monitor the performance of a project **with respect to** its plan. And based on this monitoring, actions can be taken to correct the **course** of execution, if the need **arises**.

Overall, project planning **lays out** the path the project should follow in order to achieve the project objectives. It specifies all the tasks that the project members should perform, and specifies who will do what, in how much time, and when in order to execute this plan. With a detailed plan, what remains to be done is to execute the plan, which is done through the rest of the project. Of course, plans never remain unchanged, as things do not always work as planned. With proper monitoring **in place**, these situations can be identified and plans changed accordingly. Basic project planning principles and techniques can be used for plan modification also.

Words

ingredient[in'gri:diənt] *n*. 因素,成分
staff[stɑ:f] *v*. 配置职员
tailor['teilə(r)] *v*. 剪裁,适应
suit[su:t,sju:t] *v*. 适合,合乎……的要求
breakup['breikʌp] *n*. 分解
identify[ai'dentifai] *v*. 确认,说明身份
live[laiv] *adj*. 生动的
item['aitəm] *n*. 项
prioritize[prai'ɔrətaiz] *v*. 把……区分优先次序
mitigation[ˌmiti'geiʃn] *n*. 缓解,减轻
mechanism['mekənizəm] *n*. 机制
defect[di:fekt,di'fekt] *n*. 缺陷
course[kɔ:s] *n*. 过程,进程
arise[ə'raiz] *v*. 出现,产生,上升

Phrases

with respect to 就……而论,关于
lay out 划定(路线),布置,安排
in place 适当,就位,(法律、政策、行政体系等)正在运作

Abbreviations

V&V Verification and Validation 验证和确认

Notes

[1] **Original**: The detailed schedule is one in which the tasks are broken into smaller, schedulable tasks, and then assigned to specific team members, while preserving the overall schedule and effort estimates.

Translation: 详细进度是指在保持总体进度和工作量估算的条件下,将任务分解为更小的、可安排的任务,然后将其分派给特定的团队成员。

Exercises

Ⅰ. Read the following statements carefully, and decide whether they are true (T) or false (F) according to the text.

____1. There are seven important activities in the project planning.

____2. Generally, there are two main steps involved in process planning, that is selecting a proper process model and tailoring the project to suit the model chosen.

____3. In software engineering, the term "activity" is in the level with more details

than the term "task" is.

____ 4. Both the effort estimate and the staffing level in a project are the bases of the overall schedule and the major milestones of the project.

____ 5. Status reports is one of the mechanisms that are often used in project monitoring.

Ⅱ. Choose the best answer to each of the following questions according to the text.

1. Which statement is right about the project planning?

(A) Planning is an important ingredient for a successful project, so it must be done at the very beginning, before any other activities in the project.

(B) Project planning arranges the path the project should follow in order to achieve the project objectives.

(C) Establishing a good project plan is the most essential for implementing the plan successfully.

(D) Because of the potential risks brought by changes, a good project plan always avoids changes, so that things always work as planned.

2. What does the word "live" means in the context of "The detailed schedule is the most live document of project planning" in the third paragraph?

(A) Involving team members who are physically present, because the tasks must be assigned to specific team members in the detailed schedule.

(B) Guidable, because the detailed schedule lists the tasks that have to be done, as the guidance of the daily work.

(C) Operative, because the detailed schedule must consider any changes in the project plan suitably.

(D) Not specific, because the detailed schedule does not have to be made due to the potential frequent changes.

3. Which statement is wrong about the following different activities in the project plan?

(A) Models that can be used in process planning and schedule planning are different.

(B) Configuration management is used to control the changes that occur during the project.

(C) Risk mitigation plans are made and performed as the subsequence of the risk management plan.

(D) Measurement is a most important mechanism for monitoring the performance of a project with respect to its plan.