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2012 Laboratory, R&D centre, software engineering expert, has 15 years of software R&D experience;
• Has been engaged in R&D mode, method and practice, as well as the project ability coaching in the field of software engineering since 2009
• Helped more than 10 important products of the company to upgrade their software ability
• Won the major contribution award for the four software engineering projects of Huawei

• The lecture content:
  □ Theme: “The development of software ecosystem driver”
  □ Brief introduction: The development of software ecosystem driver, is a system methodology open to the third-party partners (the developers), which embarks from actual cases to elaborate challenges on requirement analysis. The method put forward a new perspective that "Everyone is a requirement analyst" to expound the value of precise requirement analysis and how to improve the ability of doing the requirement analysis.
Confucius

Confucius said: “Those who are born understanding it are the best; those who understand it through learning are the second. Those who find it difficult and yet persist in their studies are still lower. The worst are those who find it difficult but do not even try to learn.”
Users’ requirement vs Product requirement vs requirement analyst

- **Users’ requirement**: the requirement of the users and often can be expressed as the solution for the users.
- **Product requirement**: after analysis, we will find the users’ real requirement, and form it as the product solution.
- **Requirement analysis**: starting from the requirement of the users, to find the users’ inner real desire and turn it into the process of product requirement.
- **Requirement analyst**: person who turns the users’ requirement into product requirement.
- Who always comments on the jukebox panel when going to KTV?
- Who always thinks about "what needs can this product solve?" in the supermarket?
- Who always complains in the queue?
- Who doesn't want to fill in the working hours sheet?
- Who even wanted to present PPT in his own wedding?
- Who ever used the research method for the clients to communicate with his friends and family?
- Who always complains when using the IT tools?
- Who can extract three big selling points in seconds when watching TV ads?
- Who always designs a variety of "functions" for his children?
- Who can immediately pick out several bugs when accessing to any website
- ......
The pain points in the process of traditional development

➢ Customer expectation: to respond quickly to their problems and needs, accurately realise their requirements, provide products with good quality and short launching time
➢ The traditional software development accurately settled the following problems:

1. Application scenario and original requirement analysis: missing requirement information, unclear about the goal, value and situation, passive acceptance and implementation, invalid development or high cost rework

2. Lack of or inaccurate description of requirement instantiation

3. Missing the requirement scenario analysis and design

4. Too many transmission links, different sources, long confirmation cycle

5. Inaccurate implementation and verification, high cost of rework

6. Life cycle evolution process: the abstract requirement-unreliable transmission of different version specifications-evolution omission-the code modification-affecting the old features

The whole process: lack of real cases of the requirement specification, too many transmission links, different sources, long confirmation cycle

Next version
Practice: scenario-oriented requirement definition

Concept

In the process of requirement definition and capture, to focus on the business goal, tend to the customer’s problems and business scenario systematic needs, to establish the links from business goals and scenarios to their requirement, dig their implicit requirement, eliminate pseudo requirement, to avoid scenarios omission.

Benefits

- Better collaboration and interaction between Business and development functions;
- To ensure the requirement delivery be consistent with business goals;
- Based on business goals, assumption realisation, to make effective roadmap planning, decision-making.
  Value discovery, complete identification of the customer's business scenario and the real requirement

Goal-Oriented Analysis :

Impact Mapping Analysis

Note: "Scenario oriented requirement definition" was formerly known as "the requirement definition and capture to the needs and problems of the customers"
**Practice: the executable requirement**

### Concept
To describe the customer’s requirement according to the GWT format and ensure there is no ambiguity; The requirement instance is a test and execution of the test is to perform the requirement.

**Before describing the requirement instantiation:**
- **Voice Mail System (VMS)**
- **Title:** VMS support the incontinuous prompt tone of picking up the machine
- **Description:** When the customers receive one or more new messages, the receiver will produce an incontinuous prompt tone.

### Benefits
- The requirement is real, specific, precise, verifiable and executable
- To express the specification is beneficial to the automation

**After describing the requirement instantiation:**
- **As the customers** in order to receive mails on time, I want VMS will broadcast the prompt tone.
- **Feature:** VMS support off-hook dial, broadcasting prompt tone
- **Given** there are 5 messages on the users’ telephone
- **When** the user picks up the phone
- **Then**
  1. The central server will send new mail message to VMS
  2. VMS will send the new mail message to the central server
  3. The central server will send the incontinuous tone to the users’ telephone
  4. The user’s telephone status setting is <Unread Message>

**Before requirement instantiation: support moratorium in the process of downloading the upgrade package**

<table>
<thead>
<tr>
<th>After requirement instantiation</th>
<th>Role/Value</th>
<th>Goal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC: Download the latest versions of the software</td>
<td>Moratorium in the process of downloading</td>
<td><strong>Given</strong> Modules are downloading components and breakpoint continuous switch is set to ENABLE</td>
<td><strong>When</strong> PC issued the AT command: AT^FOTADL=2</td>
</tr>
<tr>
<td><strong>Given</strong> Modules are downloading components and breakpoint continuous switch is set to DISABLE</td>
<td><strong>When</strong> PC issued the AT command: AT^FOTADL=2</td>
<td><strong>Then</strong> 1. Download interrupted; 2. Delete the downloaded file; 3. 升级态转变为Idle</td>
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</tbody>
</table>
• Although not everyone can be a requirement analyst, but in my opinion, the requirement analyst is this kind of person-his/her idea and method of doing things can solve many practical problems in life/work.

• As long as you are able to find the problem, describe it clearly and form it into a requirement, and then convert it to a task, find support and mobilise a batch of people to complete this task, and continue to track and maintain the product with an attitude of the ownership of the company, then you're a requirements engineer.

• At least, you are your own requirement analyst, this is the real meaning of "Everyone is a requirements engineer".