Homework 13

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1. **Purpose**

Safehome is a software which can protect your home. So the stability of the software is quite important. We need some way to make sure that. In this document, we define how to test our software and the standard of the software.

1. **The-plan identifier**

The identifier for this plan is ‘safehome test’

1. **Introduction**

Safehome is a web based application. In the user’s home, there are many sensors, those sensors can detect CO2, temperature and other things, also there are some monitors. Those information will be sent to web, and user can view there by logging the web page. Also, they can monitor their home through there monitors.

1. **Test reference items**

In this test plan, we need to test those sensors, monitors, and especially the web software.

1. **Features that will be tested**

Our test mainly focus on the software. So we will test there features.

1. The stability of the software especially the login system.
2. The connection between web and background server.
3. The quality of the video.
4. **Features that will not be tested**

Because this test plan mainly focus on the software, so we will not test the stability of hardware.

1. **Approach to testing**

For the login system, the process of login is in the diagram.

图片包含 游戏机

描述已自动生成

To test the stability of the web page, we can use tools such as Selenium. Selenium test runs directly in the browser, just like the real user is operating, a series of system function tests can be carried out. We can program to define the login process, then Selenium can do there process automatically. And each time it can give us some responses. Such as running time. Our expectation for our login program is that we can log in only when we enter the correct account and password. You should fail to log in at other times. Also, the time we use to verify the account should be limited.

For the quality of video, the process of view the video is in the diagram.

图片包含 游戏机

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The test of view monitor is to make sure that we can view the video successfully in the web and the quality of the video is acceptable. We can also use Selenium to finish the task. By setting, let the software work at different times, record the video at that time, so that we can observe the video quality at different times.

1. **Criteria for Pass/Fail**

|  |  |  |  |
| --- | --- | --- | --- |
|  | good | medium | bad |
| response time | <20ms | 20-40ms | >40ms |
| video definition | >1080p | 720p-1080p | <720p |
| Packet loss rate | <10% | 10%-20% | >20% |

1. **Test Deliverables**
2. Test plan
3. Test logs: outputs of every step should be included in this file.
4. Test trouble reports: trouble of the software should be included in this file.
5. Test summary reports
6. **Environmental Needs**
7. Different kinds of phones and a computer.
8. Different kinds of browser
9. python 3.6 and Selenium