
AITA

软件工程专业综合项目测试计划书

1652714 孙浩然

1652763 陈泽徽

1652751 梁钧清

1553545 王嵩豪

1652708 周泽林

1652698 康晓博

目录

- AITA..... 1
- 目录..... 2
- 引言..... 3
 - 背景与依据.....3
 - 选择模块.....3
- 测试技术和过程..... 4
 - 4.1 使用 ECP 技术对 auth 模块进行黑盒测试.....4
 - 4.2 使用 BVA 技术对 focus 模块进行黑盒测试..... 5
 - 4.3 对 usr 模块进行白盒测试..... 6
- 测试框架..... 15

引言

背景与依据

AITA 系统设计说明书

AITA 需求分析

AITA 项目方案书

选择模块

本项目共选择三个模块进行测试，选择的三个模块分别为用户认证模块，专注度模块和用户信息模块。该三个模块的使用频率在本项目中最高，所以我们选择对这三个模块进行单元测试。

用户认证模块是系统中一个非常重要的模块，每一位使用本系统的用户都需要使用本模块进行用户认证。我们决定对用户认证模块采用黑盒测试的 ECP 测试方法。

专注度模块是本系统的核心功能，这个模块在系统主要负责管理用户的专注度数据，同时还对数据进行处理和分析。我们决定对这个模块采用黑盒测试的 BVA 测试方法。

用户信息模块是本系统中使用频率最高的一个模块，这个模块主要负责用户信息的管理，我们决定对这个模块采用白盒测试。

测试技术和过程

4.1 使用 ECP 技术对 auth 模块进行黑盒测试

以下是 ECP 技术的等价类及其代表：

参数	等价类	代表
username	vEC11: a certain sting inside database username storage	"init"
	iEC11: null	""
	iEC12: a certain string but not in database username storage	"test"
password	vEC11: a certain sting matches password of username in database	"rightpwd"
	iEC11: null	""
	iEC12: a certain string but does not match the password of username	"wrongpwd"

以下是全部的测试情景：

	p 参数		
测试情景	username	password	结果
1	"init"	"rightpwd"	success login
2	"init"	""	invalid input
3	"init"	"wrongpwd"	wrong password
4	""	"rightpwd"	invalid input
5	""	""	invalid input
6	""	"wrongpwd"	invalid input
7	"test"	"rightpwd"	wrong username
8	"test"	""	invalid input
9	"test"	"wrongpwd"	wrong username
...

4.2 使用 BVA 技术对 focus 模块进行黑盒测试

以下是测试类及其边界：

参数	LBV, [EC], UBV
emotion	$0-\delta$, $[0, _ , 100]$, $100+\delta$
gaze	$-20-\delta$, $[-20, 20]$, $20+\delta$
rate	$0-\delta$, $[0, 1]$, $1+\delta$

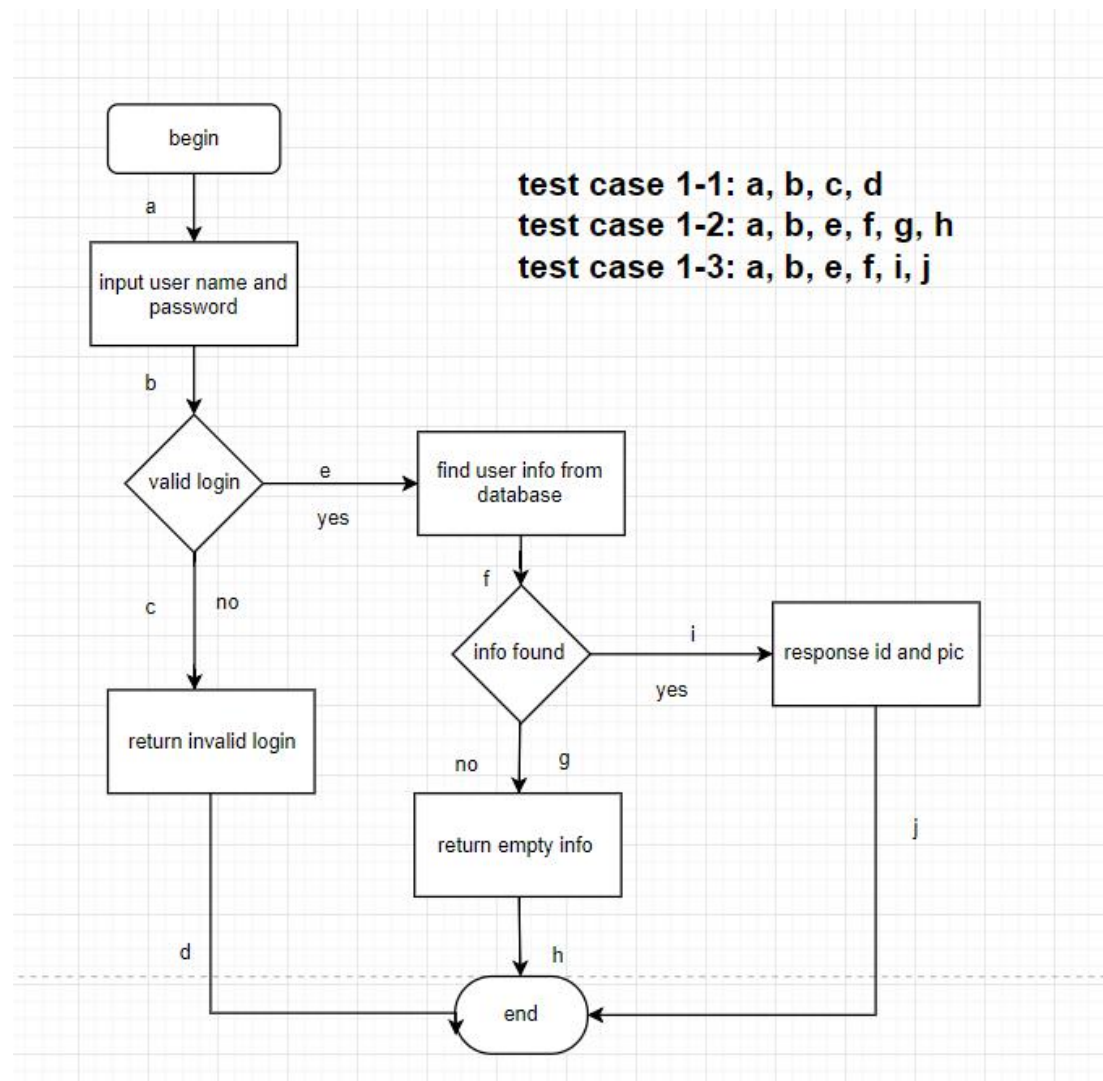
以下是全部的测试情景：

	参数			
测试情景	emotion	gaze	rate	结果
1	0	-20	0	success
2	100	20	1	success
3	-0.01	-20.01	-0.01	invalid
4	0.01	-19.99	0.01	success
5	100.01	20.01	1.01	invalid
6	99.99	19.99	0.99	success
7	0.01	20.01	0.99	invalid
8	99.99	-19.99	1.01	invalid
...

4.3 对 usr 模块进行白盒测试

我们对 usr 模块进行白盒测试，由于这个模块没有太多输入数据，我们并没有很多测试情景。以下是测试的流程图：

Get user info:



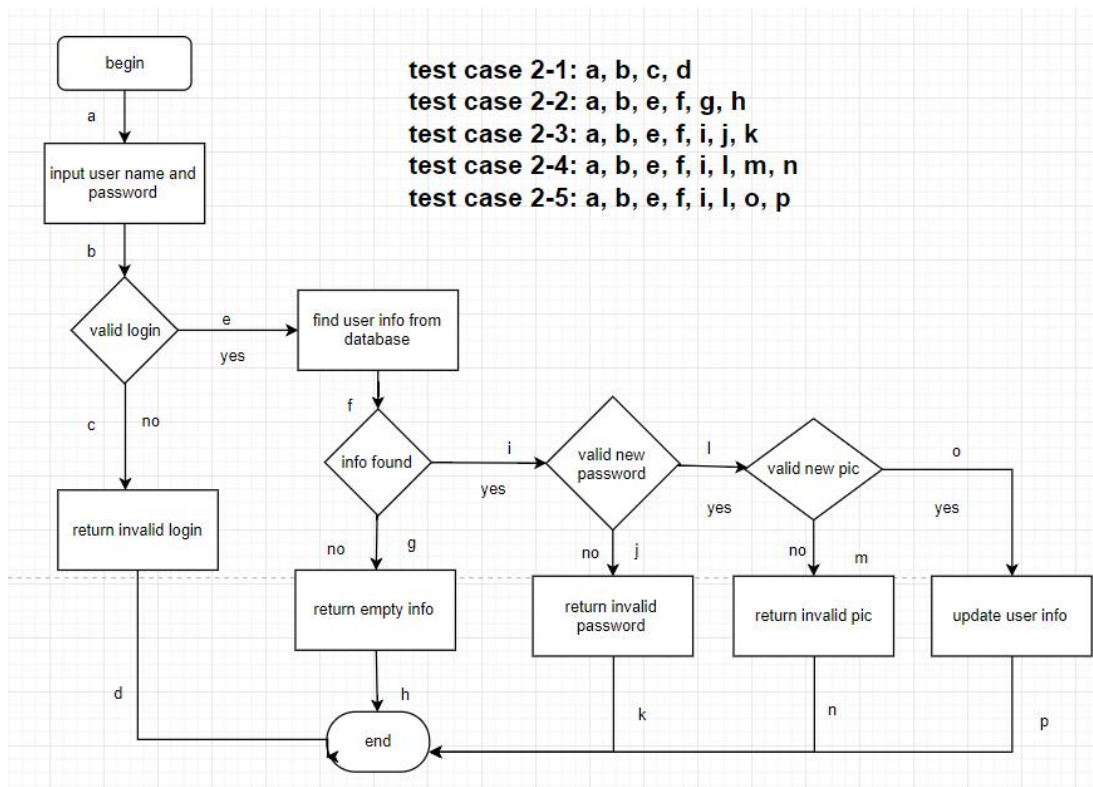
NO.	Test case 1-1
-----	---------------

Functional module	User module
Case title	Test the input of invalid login
Prerequisite	Users input user name and password
Testing procedure	
Expected results	
Actually results	
Remarks	

NO.	Test case 1-2
Functional module	User module
Case title	Test user information which is not found in database
Prerequisite	Users have logged in successfully
Testing procedure	
Expected results	
Actually results	
Remarks	

NO.	Test case 1-3
Functional module	User module
Case title	Test the response id and pictures with valid login and found information
Prerequisite	Users have logged in successfully and user information can be found in database
Testing procedure	
Expected results	
Actually results	
Remarks	

Update user info:



NO.	Test case 2-1
Functional module	User module
Case title	Test the input of invalid login
Prerequisite	Users input user name and password
Testing procedure	
Expected results	
Actually results	
Remarks	

NO.	Test case 2-2
Functional	User module

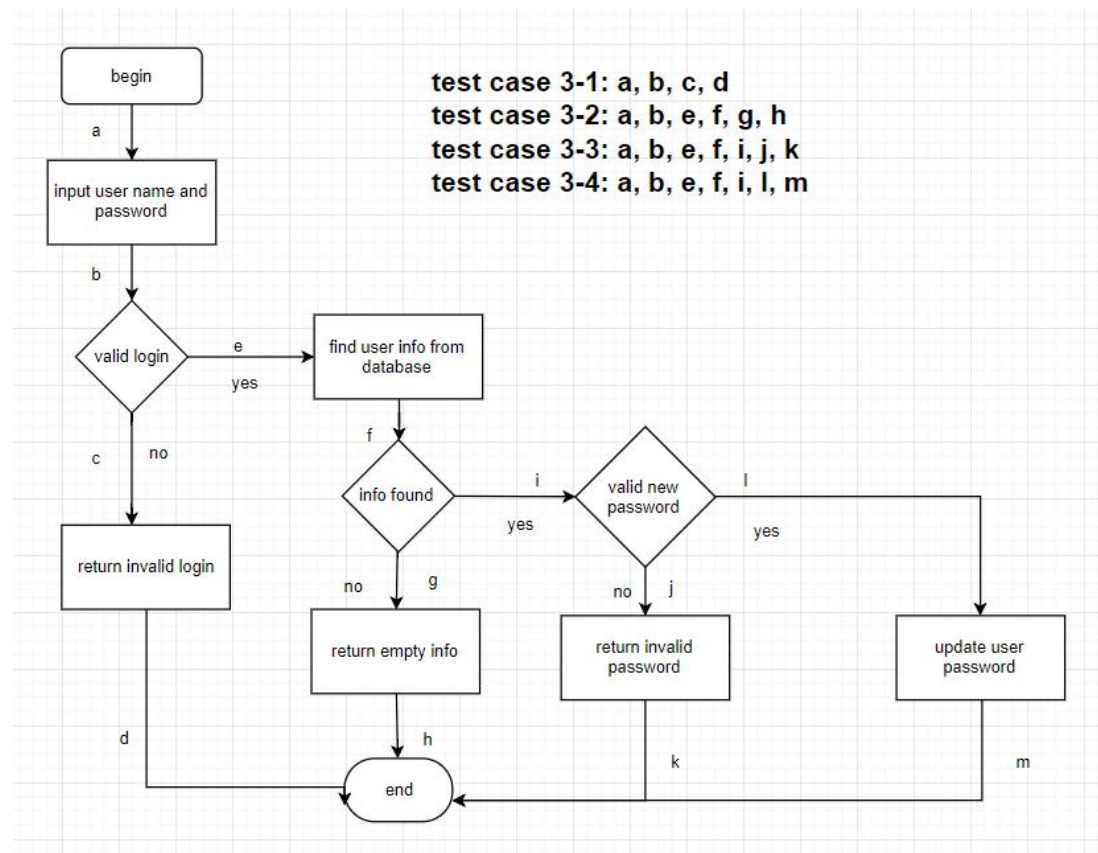
module	
Case title	Test user information which is not found in database
Prerequisite	Users have logged in successfully
Testing procedure	
Expected results	
Actually results	
Remarks	

NO.	Test case 2-3
Functional module	User module
Case title	Test the input of invalid password while updating user information
Prerequisite	Users have logged in successfully and user information can be found in database
Testing procedure	
Expected results	
Actually results	
Remarks	

NO.	Test case 2-4
Functional module	User module
Case title	Test the input of invalid pictures while updating pictures
Prerequisite	Users have logged in successfully and user information can be found in database
Testing procedure	
Expected results	
Actually results	
Remarks	

NO.	Test case 2-5
Functional module	User module
Case title	Test the successfull update of user information
Prerequisite	Users have logged in successfully and user information can be found in database, and users have input valid new password or pictures while updating
Testing procedure	
Expected results	
Actually results	
Remarks	

Update user password:



NO.	Test case 3-1
Functional module	User module
Case title	Test the input of invalid login
Prerequisite	Users input user name and password
Testing procedure	
Expected results	
Actually results	
Remarks	

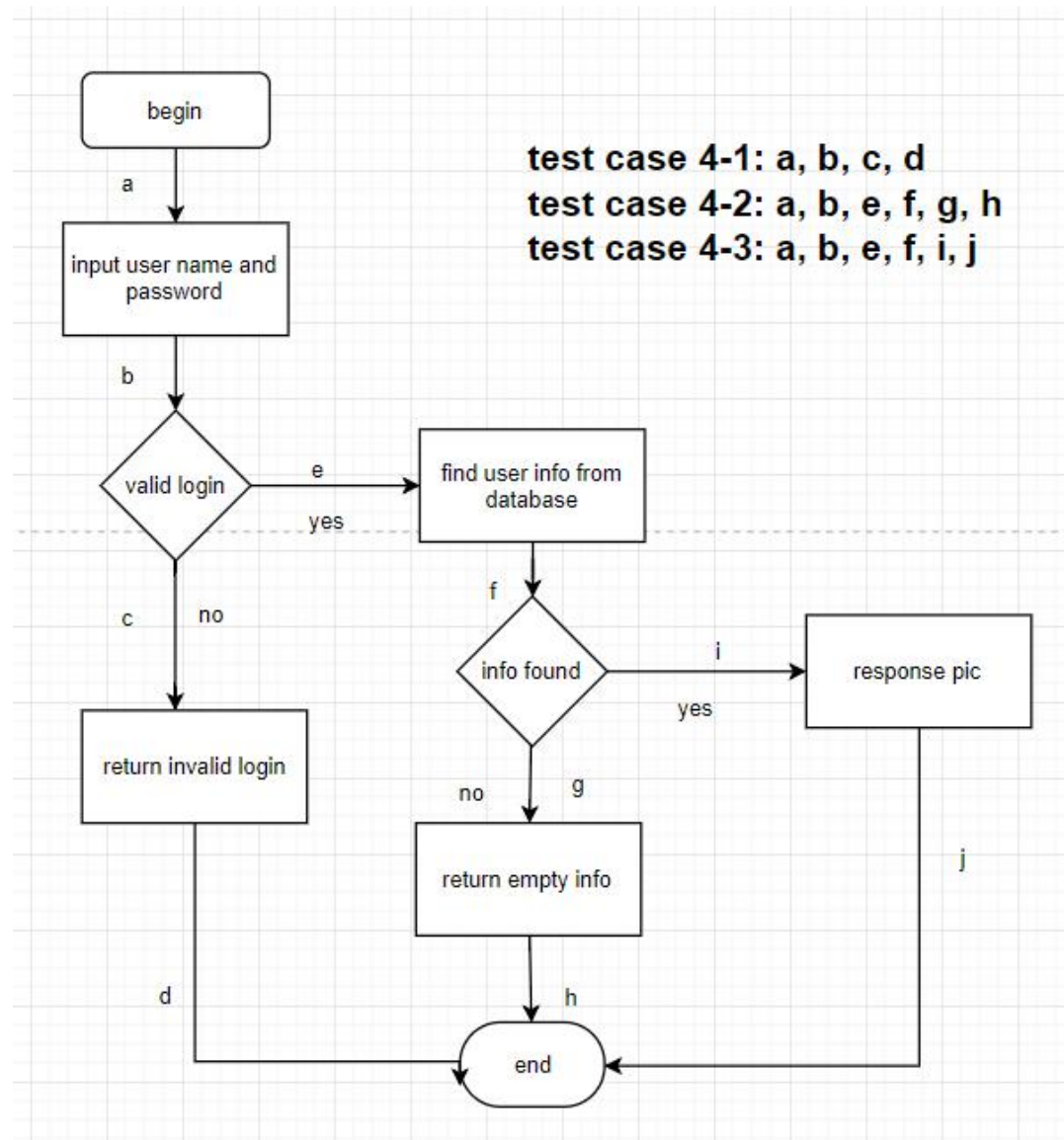
NO.	Test case 3-2
Functional	User module

module	
Case title	Test user information which is not found in database
Prerequisite	Users have logged in successfully
Testing procedure	
Expected results	
Actually results	
Remarks	

NO.	Test case 3-3
Functional module	User module
Case title	Test the input of invalid password while updating user password
Prerequisite	Users have logged in successfully and user information can be found in database
Testing procedure	
Expected results	
Actually results	
Remarks	

NO.	Test case 3-4
Functional module	User module
Case title	Test the input of valid password while updating user password
Prerequisite	Users have logged in successfully and user information can be found in database
Testing procedure	
Expected results	
Actually results	
Remarks	

Get user pic:



NO.	Test case 4-1
Functional module	User module
Case title	Test the input of invalid login
Prerequisite	Users input user name and password
Testing procedure	
Expected results	

Actually results	
Remarks	

NO.	Test case 4-2
Functional module	User module
Case title	Test user information which is not found in database
Prerequisite	Users have logged in successfully
Testing procedure	
Expected results	
Actually results	
Remarks	

NO.	Test case 4-3
Functional module	User module
Case title	Test the response pictures with valid login and found information
Prerequisite	Users have logged in successfully and user information can be found in database
Testing procedure	
Expected results	
Actually results	
Remarks	

测试框架

在本系统的测试过程中，我们将选用 pytest 作为我们的测试框架。Pytest 测试框架让我们可以更加轻松地写简单的单元测试，同时对大型复杂的项目测试也提供支持。由于我们软件项目的后端采用 Python 语言的 flask 框架书写，pytest 成为我们测试的不二选择。