TECHNISCHE UNIVERSITÄT
CHEMNITZ

Volere Snow Cards

Softwaretechnikpraktikum - Meilenstein 1

Fakultät für Informatik
Professur Softwaretechnik

Eingereicht von: Gruppe 5
Einreichungsdatum: 20.11.2022

Betreuerin: Prof. Dr. Janet Siegmund
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Zusammenfassung

Login System

Requirement-ID: **1.1**   Requirement Type: Event: **login**
functional

Description: **button press triggers the login process**

Rationale: **pressing the login button starts the login process**

Originator: **user, customer, administrator**

Fit Criterion: **shibboleth system prompts for user credentials**

Customer Satisfaction: **5**   Customer Dissatisfaction: **5**

Dependencies: **-**   Conflicts: **-**

Materials: **shibboleth documentation**

History: **created: 09.11.2022**

Requirement-ID: **1.2**   Requirement Type: Event: **login**
functional

Description: **user has the option to change his/her password**

Rationale: **when forgetting his/her password the user can request
the system to send an e-mail to change the password**

Originator: **user, administrator**

Fit Criterion: **all users can successfully change their passwords**

Customer Satisfaction: **5**   Customer Dissatisfaction: **3**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 09.11.2022**

Requirement-ID: **1.3**   Requirement Type: Event: **login**
                    non-functional

Description: **the front page has an intuitive design**

Rationale: **lowering the hurdles for the user to start using the platform**

Originator: **user**

Fit Criterion: **a test group of users spots the login button in less than 3 seconds on average**

Customer Satisfaction: **2**   Customer Dissatisfaction: **3**

Dependencies: **-**   Conflicts: **-**

Materials: `https://m3.material.io`

History: **created: 09.11.2022**

Requirement-ID: **1.4**   Requirement Type: Event: **login**
                    non-functional

Description: **the front page has an appealing design**

Rationale: **making a good first impression and don't annoy the users**

Originator: **user, customer**

Fit Criterion: **a test group of potential users considers creating a user account**

Customer Satisfaction: **2**   Customer Dissatisfaction: **3**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 09.11.2022**

Exercise System

Requirement-ID: **2.1**   Requirement Type: **functional**   Event: **exercise**

Description: **hints for the programming exercises**

Rationale: **useful to avoid the user getting stuck and give additional information**

Originator: **user, customer**

Fit Criterion: **administrator should be able to add hints to an exercise**

Customer Satisfaction: **4**   Customer Dissatisfaction: **3**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 10.11.2022**

Requirement-ID: **2.2**   Requirement Type: **functional**   Event: **exercise**

Description: **search function for exercises with type filter**

Rationale: **user can search for specific tasks to have a more individual learning experience**

Originator: **user, customer**

Fit Criterion: **all exercises can be found and filtered by type**

Customer Satisfaction: **4**   Customer Dissatisfaction: **2**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 10.11.2022**

Requirement-ID: **2.3** Requirement Type: Event: **exercise**
functional

Description: **log various metrics while the user solves the exercises**

Rationale: **statistics can be created to track the learning process**

Originator: **user, customer**

Fit Criterion: **metrics like time and how often an exercise was solved are logged and can be proofed with test**

Customer Satisfaction: **4**   Customer Dissatisfaction: **3**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 10.11.2022**

Requirement-ID: **2.4** Requirement Type: Event: **exercise**
non-functional

Description: **syntax highlighting in all exercises for both Python and Java**

Rationale: **syntax highlighting leads to a more readable and understandable source code, especially for beginners**

Originator: **user, customer**

Fit Criterion: **syntax is correctly highlighted in various scenarios**

Customer Satisfaction: **2**   Customer Dissatisfaction: **4**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created 09.11.2022**

Requirement-ID: **2.5**   Requirement Type: Event: **exercise**
                          non-functional

Description: **prevent the code validation system from running malicious code**

Rationale: **malicious code can lead to system crashes or remote code executions**

Originator: **customer**

Fit Criterion: **malicious code entered into the validation system does not cause the server to crash or undermines system integrity**

Customer Satisfaction: **2**   Customer Dissatisfaction: **3**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 14.11.2022**

Administration System

Requirement-ID: **3.1**   Requirement Type: Event: **administration**
                          functional

Description: **the platform shall conform to data protection requirements**

Rationale: **the administration system shall not allow access to sensitive user information**

Originator: **user, data protection officer**

Fit Criterion: **federal data protection officer approves the design**

Customer Satisfaction: **1**   Customer Dissatisfaction: **3**

Dependencies: **-**   Conflicts: **3.2**

Materials: `https://gdpr-info.eu/`

History: **created: 05.11.2022**

Requirement-ID: **3.2**   Requirement Type: Event: **administration functional**

Description: **the administration system shall provide insights into required metrics**

Rationale: **metrics are necessary to create learning schedules**

Originator: **customer**

Fit Criterion: **all the required metrics can be analyzed in the administration system**

Customer Satisfaction: **5**   Customer Dissatisfaction: **5**

Dependencies: **-**   Conflicts: **3.1**

Materials: **-**

History: **created: 05.11.2022**

Requirement-ID: **3.3**   Requirement Type: Event: **administration functional**

Description: **the administration system shall provide the ability to create tasks**

Rationale: **creating tasks is necessary to expand the platform**

Originator: **customer, administrator**

Fit Criterion: **after a year of service the platform has more than just the sample exercises**

Customer Satisfaction: **5**   Customer Dissatisfaction: **5**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 07.11.2022**

Requirement-ID: **3.4**   Requirement Type: Event: **administration**

non-functional

Description: **the administration system shall be intuitive to use**

Rationale: **an unintuitive administration system drives the administrators away**

Originator: **administrator**

Fit Criterion: **an administrator shall perform a task in less then 15 minutes after reading the user manual**

Customer Satisfaction: **3**   Customer Dissatisfaction: **4**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 07.11.2022**

Requirement-ID: **3.5**   Requirement Type: Event: **administration**

non-functional

Description: **the administration system shall work performant**

Rationale: **long response times lower the user experience**

Originator: **administrator**

Fit Criterion: **the administration system returns results after a maximum of one second**

Customer Satisfaction: **3**   Customer Dissatisfaction: **4**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 07.11.2022**

Evaluation System

Requirement-ID: **4.1**   Requirement Type: Event: **evaluation**
                                          functional

Description: **the user receives an evaluation after submitting a solution**

Rationale: **the user needs to see an evaluation to understand the scoring**

Originator: **customer**

Fit Criterion: **validation with test data**

Customer Satisfaction: **1**   Customer Dissatisfaction: **5**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 05.11.2022**

Requirement-ID: **4.2**   Requirement Type: Event: **evaluation**
                                          functional

Description: **the evaluation system saves results to the database**

Rationale: **learning process is evident and comparison the previous solutions is possible**

Originator: **customer**

Fit Criterion: **validation with test data**

Customer Satisfaction: **2**   Customer Dissatisfaction: **4**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 05.11.2022**

Requirement-ID: **4.3**   Requirement Type: Event: **evaluation**
                          functional

Description: **the evaluation system shall provide a sample solution**

Rationale: **user needs to see a correct solution for learning effect**

Originator: **user, customer**

Fit Criterion: **validation with wrong solutions**

Customer Satisfaction: **5**   Customer Dissatisfaction: **4**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 05.11.2022**

Requirement-ID: **4.4**   Requirement Type: Event: **evaluation**
                          non-functional

Description: **the evaluation system handles malicious user input**

Rationale: **the evaluation system is available most of the time**

Originator: **customer, administrator**

Fit Criterion: **the evaluation system crashes only at 1% of cases when presented with specially crafted or randomly generated user input**

Customer Satisfaction: **2**   Customer Dissatisfaction: **4**

Dependencies: **-**   Conflicts: **-**

Materials: **-**

History: **created: 05.11.2022**

Requirement-ID: **4.5**   Requirement Type: Event: **evaluation**
                          non-functional

Description: **the evaluation system shall perform tasks with low latency**

Rationale: **high user experience and satisfaction is ensured**

Originator: **user, customer**

Fit Criterion: **in tests the evaluation system returns after at least 1 second**

Customer Satisfaction: **1**   Customer Dissatisfaction: **4**

Dependencies: **-**   Conflicts: **-**

Materials: `https://www.selenium.dev/`

History: **created: 05.11.2022**