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**SOEN 6481**

**SOFTWARE SYSTEMS REQUIREMENTS SPECIFICATION: SECTION SS**

**FALL 2019**

Deliverable 2

Group B

**Team Members**

|  |  |
| --- | --- |
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## PROBLEM 5. [70 MARKS]

For your TVM, elicit, decide, and create a set of user stories, say, USIGO.

The collection of user stories in USIGO can include both positive as well as negative user stories.

The collection of user stories in USIGO must, based on some systematic scheme, aim for ‘high quality’, individually as well as communally.

The constraints on USIGO can be either local (that is, on a single user story) or global (that is, on multiple user stories). The constraints must, as appropriate, highlight TVM-related product quality concerns. For example, such constraints could be **maintainability- specific, security-specific, sustainability-specific, and/or usability-specific** (including **accessibility-specific**).

Each user story in USIGO must be associated with a **priority**, **estimate (in story points)**, as well as with one or more **acceptance tests**. Each user story must be **identifiable, atomic, consistent (with respect to other user stories), implementable, validatable, and verifiable**. Each user story must also aim to **minimize the potential for ambiguity and indeterminacy**.

## NOTE

The concerns pertaining to the details of the technique used for estimation of user stories can be ignored.

**ANSWER**

The user story have been drafted for the TVM[Övergaard, Palmkvist, 2005]. The source of these user stories are following:

* Use cases
* Interviews
* Survey
* Other User Stories
* Academic Research

**5.1 USER STORY DRAFT TABLE**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Id** | **User Story Description** | **User Roles** | **User Goal** | **Reason** | **Priority** |
| US1 | New user wants to register in the system | Unregistered User | Register to the system | To buy ticket to access the transport facility | 4 |
| US2 | A registered user wants to log into the system | Registered User | Login to the system | To buy ticket to access the transport facility | 4 |
| US3 | User wants to buy ticket at concession | Registered User(Senior citizen / Student) | Buy Ticket at a lower price | To get a ticket at a discounted price | 3 |
| US4 | Government can view the logs of ticket | Government | Document/Log the ticket purchases/use | Analyze the ticket purchases and uses | 3 |
| US5 | User wants to a buy a monthly/yearly ticket pass for travel | User | Buy monthly/yearly pass | To access the pass facility | 5 |
| US6 | User wants to make changes to existing ticket plan | User | Make change in existing ticket plan | To modify ticket plan | 2 |
| US7 | User wants to recharge card online | User | Recharge ticket online | To get online recharge facility | 4 |
| US8 | User wants to get e-receipt upon purchasing a ticket | User | Get e-receipt | To get a receipt online | 4 |
| US9 | A user want to select the different plan options | Registered User | Select the available travel plans | To buy ticket plan to access the transport facility | 4 |
| US10 | A user buy the ticket and get confirmation | Registered user | Enter the card details and buy the ticket plan | To buy ticket plan to access the transport facility | 5 |

**5.2 User Stories**

**5.2.1 Registration**

|  |  |
| --- | --- |
| IDENTIFIER | US1 |
| NAME | Registration |
| STATEMENT | As a User, I should be able to register to the system |
| CONSTRAINT | 1. The user should be an unregistered user. |
| PRIORITY | 3 |
| ACCEPTANCE CRITERIA | 1. User is registered successfully. |

**5.2.2 Login**

|  |  |
| --- | --- |
| IDENTIFIER | US2 |
| NAME | Login |
| STATEMENT | As a User, I should be able to login to the system |
| CONSTRAINT | 1. The user should be already registered in the system |
| PRIORITY | 4 |
| ACCEPTANCE CRITERIA | 1. User logs in successfully. |

**5.2.3 Buy ticket at a concession (Senior Citizen/Student)**

|  |  |
| --- | --- |
| IDENTIFIER | US3 |
| NAME | Buy ticket at a concession |
| STATEMENT | As a Senior citizen or a student, I can buy ticket plan at a concession |
| CONSTRAINT | 1. The user should have a valid id proof |
| PRIORITY | 3 |
| ACCEPTANCE CRITERIA | 1. Monthly ticket is active for the student |

**5.2.4 View Ticket Log**

|  |  |
| --- | --- |
| IDENTIFIER | US9 |
| NAME | View ticket logs |
| STATEMENT | As a government employee, I can view the logs of ticket |
| CONSTRAINT | 1. The government can view the logs of all TVM users at a time |
| PRIORITY | 3 |
| ACCEPTANCE CRITERIA | 1. The logs of all the users should be successfully displayed |

**5.2.5 Buy a pass(monthly/yearly)**

|  |  |
| --- | --- |
| IDENTIFIER | US5 |
| NAME | Buy monthly/yearly pass |
| STATEMENT | As a User, I can buy pass for travelling to access the transport facility |
| CONSTRAINT | 1. The user should have ticket |
| PRIORITY | 5 |
| ACCEPTANCE CRITERIA | 1. User is successfully able to receive a ticket  2. User should gets a receipt of ticket |

**5.2.6 Modify ticket plan**

|  |  |
| --- | --- |
| IDENTIFIER | US6 |
| NAME | Modify ticket plans |
| STATEMENT | As a User, I should be able to modify the available ticket plan |
| CONSTRAINT | 1. The user should be logged in. |
| PRIORITY | 2 |
| ACCEPTANCE CRITERIA | 1. User is successfully able to modify the ticket plan 2. User is able to select plan for purchase |

**5.2.7 Recharge card online**

|  |  |
| --- | --- |
| IDENTIFIER | US7 |
| NAME | Recharge card online |
| STATEMENT | As a User, I should be able to recharge card online withn the available ticket plan |
| CONSTRAINT | 1. The user should be logged in. |
| PRIORITY | 4 |
| ACCEPTANCE CRITERIA | 1. User is successfully able to recharge the card 2. User is able to select plan for purchase |

**5.2.8 Generate e-receipt**

|  |  |
| --- | --- |
| IDENTIFIER | US8 |
| NAME | Generate e-receipt |
| STATEMENT | As a User, I should be able to get e-receipt |
| CONSTRAINT | 1. The user should be logged in. |
| PRIORITY | 4 |
| ACCEPTANCE CRITERIA | 1. User is successfully able to get e receipt 2. User is able to see and review the purchase |

**5.2.9 View ticket plan**

|  |  |
| --- | --- |
| IDENTIFIER | US9 |
| NAME | View ticket plans |
| STATEMENT | As a User, I should be able to view all the available ticket plans |
| CONSTRAINT | 1. The user should be logged in. |
| PRIORITY | 4 |
| ACCEPTANCE CRITERIA | 1. User is successfully able to view the ticket plans 2. User is able to select plan for purchase |

**5.2.10 Buy ticket**

|  |  |
| --- | --- |
| IDENTIFIER | US10 |
| NAME | Buy ticket |
| STATEMENT | As a User, I can buy ticket for travelling to access the transport facility |
| CONSTRAINT | 1. The user should have ticket |
| PRIORITY | 5 |
| ACCEPTANCE CRITERIA | 1. User is successfully able to receive a ticket  2. User should get a receipt of ticket |

## PROBLEM 6. [20 MARKS]

For USIGO, create a backwards traceability matrix, say, TMIGO. TMIGO must have at least two columns, one for each user story, and the other for one or more sources from which the user story was elicited.

For a given user story, a ‘source’ could be another user story, one of the other artifacts of

**iGo**, a person, or some literature, preferably reachable via the Internet.

**ANSWER**

The backward traceability matrix (TMiGO ) is created based on the sources for the various user stories. The backward traceability matrix is the potential for tracing antecedent steps in a developmental path, which is not necessarily a chronological path [Traceability, Kamthan, 2019].

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| User story name |  | Interviews / Survey | Use cases | User story | Previous Project | Academic Research |
| Registration | US1 | X | X |  | X |  |
| Login | US2 |  | X |  | X |  |
| Buy ticket at a concession (Senior Citizen/Student) | US3 | X |  | X |  |  |
| View Ticket Log | US4 |  | X |  |  |  |
| Buy a pass(monthly/yearly) | US5 | X |  | X | X |  |
| Modify ticket plan | US6 | X |  | X |  |  |
| Recharge card online | US7 | X |  | X | X |  |
| Generate e-receipt | US8 | X | X |  |  | X |
| Ticket Plan | US9 | X | X |  |  |  |
| Buy Ticket | US10 |  | X |  |  |  |

## PROBLEM 7. [30 MARKS]

For your TVM, say, USIGO, each **member of every team must implement one user story each** to ensure its realizability (specifically, implementability and testability within the given constraints).

The exact user story in question will be assigned **pseudo-randomly** at some point during the course.

There should be documentation that (1) explains how each user story was implemented, and (2) includes instructions of use for each implementation.

The implementation must be **demonstrated** on the assigned date.

## NOTE

There is no restriction on the programming language(s) used, except that it(they) should be in broad use today. The collection of implementations should be such that they appear coherent, as if part of a high-fidelity prototype of **iGo**.

**ANSWER**

1. Please find the attached source code along with this document.
2. Implementation Details:

|  |  |
| --- | --- |
| **Name** | **User Story** |
| Sriparna Chakraborty | US3 – Buy ticket at a concession |
| Vsu | RAVNEET PLEASE FILL |
| Ravneet | US7- Recharge card online |
| Vasu | US9 - Ticket Plans |
| Gunbansh Bhatia | US2 - Login |