California State University Fullerton

CPSC 462



Object Oriented Software Design

Risk List & Risk Management Plan

for the



Tuffy Flights

System

|  |  |  |
| --- | --- | --- |
| **Nathan Marcos** | **Jared Castaneda** | **Jawad Swed** |
| Design Modeling, Implementation | Project Management, Implementation | Business Modeling, Design Modeling |
| [nathanmarcos@csu.fullerton.edu](mailto:nathanmarcos@csu.fullerton.edu) | [jaredcast@csu.fullerton.edu](mailto:jaredcast@csu.fullerton.edu) | [jawadswed@csu.fullerton.edu](mailto:jawadswed@csu.fullerton.edu) |

Revision History:

| Version | Date | Summary of Changes | Author |
| --- | --- | --- | --- |
| 1.0 | 09/26/2020 | * Added two cases (1, 2)and their description * Added mitigation approach to case 4 * Added metrics measured to cases (1,2,3,4) * Edited details in description and mitigation approach to casses (1,2,3,4) * Added mitigation approach to cases (1,2,3) * Added two cases (3,4) and their description | Nathan Marcos  Jared Castaneda Jawad Swed |
| 2.0 | 11/07/2020 | * Added two cases(5,6) and their description * Added cases 5,6 mitigation approach | Jawad swed |
| 3.0 | 12/7/2020 | * Changed roles | Jared Castaneda |

Table of Contents

[1 Risk Identification and Mitigation Plan 1](#_Toc50222915)

# Risk Identification and Mitigation Plan

| No. | Title | Description | Weight | Category | Mitigation Approach | Metric used to Measure |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | Online Banking System Goes Down | If the online banking system goes down, then the customer will not be able to pay for his ticket resulting in losing the customer and $10000 in lost revenue | High | Business | 1- Advice the customer to call the system representative.  2- Have a back-up internal banking system to charge the customer over the phone.  3- Monitor the frequency of failure and inform the IT manager. | Frequency of failure:  1- Number of failures per hour ( Must be < 6)  2- Number of failures per month (must be < 100) |
| 2. | Database fails to retrieve purchased ticket when needed by the customer | If the database fails to retrieve purchased ticket when the customer request it. Then the customer is unable to show his ticket to the ticket agent resulting in missing his flight and $10000 in lost revenue | Medium | Technical | 1- System will store the ticket on the customer device once the ticket is purchased to be retrieved locally when needed.  2- System will send a copy of the customer Ticket to the Email account in use.  3- specify the the target hardware must have at least 500 MB. | Frequency of Database failure:  1- Number of failures per hour (Must be < 10) |
| 3. | Customer set a weak password when signing in | If the customer set a weak password when he signs into the system then the customer will be vulnerable to hack attack resulting in losing sensitive information like personal and banking data and $100000 in cost (law suits, security expert to retrieve the system) | High | Technical | 1-System will ask and ensure that the customer set a strong password.  2- Apply two factor authentication.  3- Always back-up a copy of the database to an external hardware that is not connected to the internet (cost $1000).  4- Consult a security firm regularly to ensure the system security (cost $1000 per month) | System Security:  1- passwords must be strong.  2- Regular system security checks (1 per month) |
| 4. | System failure | If the system fails due to corrupted data or loss of connection, then the customer will not be able to book flights resulting in loosing the customer thus any revenue ( $ 20000 per month) | High | Technical | 1-System will detect the failure, inform the customer and restart the system.  2- System will check if the failure due to loss of connection and advise the customer will steps to solve the connection.  2- Test the software extensively and fix any issues before launch.  3- Hire high skilled software developer to ensure system reliability and data integrity (cost $1000 per month)  4- ensure that the system is patched regularly | Frequency of system failures:  1- number of failures (must be > 5 per month) |
| 5. | Customer don’t log off | if the Customer didn’t log off from the system, then the customer account will be vulnerable to be used by other people and/or other related security threats, resulting in potential law suits, and security experts to restore the service with a cost of 10000$ | Medium | Technical | 1- system will log the customer off after a short time of inactivity.  2- system will inform the customer that the account is logged off due to inactivity | Time of inactivity:  Time of inactivity must be > 3 and < 10 |
| 6- | Security patches | If the system doesn’t get regular security patches that tackles the system security flaws then the system and its users will be vulnerable to major privacy and data leakage resulting in loosing the customers trust and major law suites | High | Technical | 1- Hire a high skilled security expert to ensure the system security (cost 10000$ per month)  2- store customer information on Amazon cloud services to outsource the security responsibility (cost $10000 $ per month) | System security:  1- security patches must be regularly applied to ensure the system security is up to date  2- ensure the customer is using the latest version of the system. |