California State University Fullerton

CPSC 462



Object Oriented Software Design

Risk List & Risk Management Plan

for the



Hotel Reservation

System

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| --- | --- | --- |
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Revision History:

| Version | Date | Summary of Changes | Author |
| --- | --- | --- | --- |
| 1.0 | 2021-10-18 | * Initial Release | Josh Ibad |
| 2.0 | 2021-11-15 | * Changed role to Chief Software Architect * In description, bolded and separated If, then, result clauses into separate lines for ease of use and readability. * In risk mitigation approach, all mitigation approaches changed from suggestions and possibilities to definitive statement of mitigations that **will** be performed. * In risk mitigation approach for item 4 - Erroneous input, mitigation approach changed from UI design which is not a mitigation approach, into actions of administrator management and user training * In metrics, a specific measure has been identified along with a specific threshold.   No new risks have been found in the current iteration. Risks will be further analyzed, reviewed, and refined in subsequent iterations. | Josh Ibad |

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# Risk Identification and Mitigation Plan

| No. | Title | Description | Weight | Category | Mitigation Approach | Metrics |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | System Crash | **If** the hotel reservation system crashes  **then** the hotel will be unable to continue business  **resulting** in losses in revenue surmounting to well above $1000 per day, depending on RevPAR and number of rooms still available. | 1 | Business | System backups will be performed which will cost around $3 per GB of data stored, and spinning up a cloud server to run the service will cost around $2+ per node per day. | System uptime in minutes.  System should never be down for more than 5 minutes. |
| 2 | Security breach | **If** malicious actors find and exploit vulnerabilities in the public-facing interfaces of the system  **then** they can hack the system  **resulting** in interruption of business operations. This can be tantamount to a crash, with losses surmounting well above $800 per day, depending on RevPAR and number of rooms still available. | 2 | Technical | Regular security assessments will be performed. A pentest will cost around $4k-$10k for systems of small scale. | Time taken for pentesters to find vulnerabilities, in days.  System should be resistant to professional black-box penetration for a day at minimum. |
| 3. | Slowdown under user load | **If** the hotel reservation system encounters large user load  **then** the system can slow down  **resulting** in poor customer experience and thus losses in revenue. Can cost around $100 a day if high, and a steady decrease in customers if left unmanaged. | 2 | Resource | High spec servers will be used and load balancing will be utilized. This will cost well above $1k-$3k per month for each upgraded server. | Delays in units of milliseconds.  System should not have delays over 5000 ms. |
| 4. | Erroneous input | **If** the hotel manager inputs wrong information  **then** users when they dont get what was expected  **resulting** in losses in revenue. Lost business can cost $50 a day if not severe. | 5 | Business | System administrators and employees will respond to erroneous inputs and fix them manually. Training will be provided to employees and managers to minimize this risk. | How often erroneous input occurs, in count of errors per month.  Successful erroneous inputs should occurs at most one per month. |