**Design Document**

Case Study #3

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**Project** **definition**

**Project background**

We represent the company “” which specializes on creating infrastructure solutions for small/medium businesses. In this case study we are going to develop a working infrastructure for a hotel which will consist of 2 sets of machines, for hotel guests and administration staff. The improvement process of the infrastructure happens in a simulated home environment which allows the client to use the product without any interruptions.

**Project background**

Our goal is to simulate an infrastructure environment which will include several machines for different purposes. Administrator machine would be able to check users(guests) status, make changes and will have access to all technical functionality. Manager machine would be able to check users(guests) status and detect possible issues regarding security or guest’s comfortability. 2 machines for lobby Workers would have access to guest’s database and would be able to add/remove users(guests). Machines for guests would have applications through which they will be able to access hotel services such as cinema, music player and games to play. Apart from that there will be a VPN feature implemented so that the guests would be able to conversate with each other safely. Lastly there will be a firewall Linux-based machine. Overall, we will strive to create a bug free infrastructure that will satisfy the end client.

**Deliverables**

* Project plan
* Design document
* Project report
* Virtual servers:
  + Admin
  + Manager
  + 2 Lobby Workers
  + 2 Users
  + PfSense
* Application for clients:
  + Cinema
  + Music player
  + Games
  + Chat
* Application for staff:
  + Database
* Internet connection for internal hosts:
  + DHCP server
  + Local DNS server
  + Firewall
  + VPN

**Expected results**

* + - Fully functioning infrastructure that will be suitable as a solid working solution for the client.
      * Simulated infrastructure
      * Secured by firewall
    - Correctly configured internet settings with minimized risks of the client being compromised
      * DNS + DHCP servers
    - Stable functionality of the Servers with a purpose of long-term performance
      * Stable hardware
    - Stable hotel service functionality so that the guests could enjoy them with no issues:
      * Cinema
      * Music player
      * Games

**Project constraints**

**Quarantine**

Quarantine limits our face-to-face communication and brings bottleneck in our workflow efficiency. It’s very hard to start and keep same tempo on working on one project, when there are a lot of distracting factors.

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| --- | --- | --- | --- |
| Risks:Team members can start arguing with each other about something they do not agreeTeam member can get sick in such way that he will be incapable to work even from home.Hardware failureInternet failure of team membersTeam members can fall into an extreme apathy due to the quarantine caused by COVID-19 which will cause issues regarding the consistency of the work process | Impact: Postponing deliverables  All work will be transferred to only one team member, which can lead to postponed and decreased quality of deliverables  Extremely harmful, due to COVID-19 quarantine and inconveniency of maintaining it  Inability of a team member to work on a daily basis  Extremely harmful due to postponed deliverables and disorganized work process | PossibilityModerateModerateLowLowHigh | Solution/Workaround:Team members will discuss what is better for them and if there will be no solution for their argue problem, teachers will get involved.One team member will try to work on everything, and sick team member will try his best to work and to get better. Contacting client/teachers to find a workaround that problem.  Notifying a mentor and a team member and contacting an internet provider for them to solve a problem.  Team members should do minimal physical exercises, consume healthy food and follow the sleeping schedule. Together these elements will tremendously benefit mental health of the group members and bring a positive mindset. |