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Homework 1:

Question 1:

1. One weakness of the first part would be in the purpose section (1.1), the text is not targeting the right thing. Instead of explaining the purpose of the eMall project, the text is explaining what is the purpose of making a RASD document. This doesn't respect the usual function of the 1.1 RASD document, and doesn't give information about the project.
2. One strength of this part is the User-centric design and the detailed overview, which makes the document understandable to most of the stakeholders and potential users. It describes all the aspects that should be covered for knowing the project better, ensuring the trust and the functionality of the platform.
3. One weakness of the first and second part is the Lack of Scalability Insight. The system's functionalities are extensively detailed, but there's no mention of how it would handle scalability. As the user base grows, the system should be equipped to handle increased demand without compromising performance or security.

Question 2:

1. One weakness of Part 3 is the presence of incoherences in the pattern of the use cases presentations. The titles should be expressed as Verb + Action, clearly showing what is the goal of the use case. The actors should come in the actor part of the use case. However in this document, some of the titles start with a noun, the actor, and this harms the readability and conciseness of the title, and introduces repetitions.
2. Another weakness that we spotted is that the section dedicated to security is really vague. Having a system that manages sensitive data such as credit cards, personal information, etc, must have a thorough and concise content related to security. The document should not use expressions such as "some sort" or "[...] The central database must be protected with all the available measures [...]" and then not specify which are those available measures.
3. A third weakness would be the big lack of description of error handling and recovery mechanism. Some information stated at "The system has to have offline backups of the data storage to exploit in disaster recovery after a data loss." but this is not precise enough.

Question 3:

1. A weakness for part 4 is the Complexity and lack of redundancy handling in the Alloy description. There are a lot of facts and details, which makes the description hard to understand, especially for newcomers and stakeholders without Alloy proficiency. This large amount of details also creates potential redundancies in the conditions, increasing complexity.
2. A strength of this part is the Structured Hierarchy. The Alloy modelling presents a well defined representation of the domain with detailed hierarchical structuring. Signatures like `Socket`, `Station`, `Booking`, and `Recharge` clearly define the relationships between different entities, leaving no doubts or un-precision. The use of abstract signatures, such as `TimeSlotStatus` and `Customer`, provides flexibility for future expansions or refinements.

3. Another strength that we could notice is the Exhaustive Status Management: The model covers various states of recharging, such as `Booked`, `Missed`, `OnCharge`, and `Saved`. This level of details on the situation of an object is essential for modelling complex systems where entities can undergo multiple states throughout their lifecycle.