Systems Engineering and Project Management vom 26.01.2023

Frage 1:

Frage

What is a system?

- [ ] A system is a set of interacting or interdependent component parts forming a complex/intricate whole
- [ ] A system is an integrated composite of people, products, and processes that provide a capability to satisfy a stated need or objective
- [ ] A system is every kind of technical framework

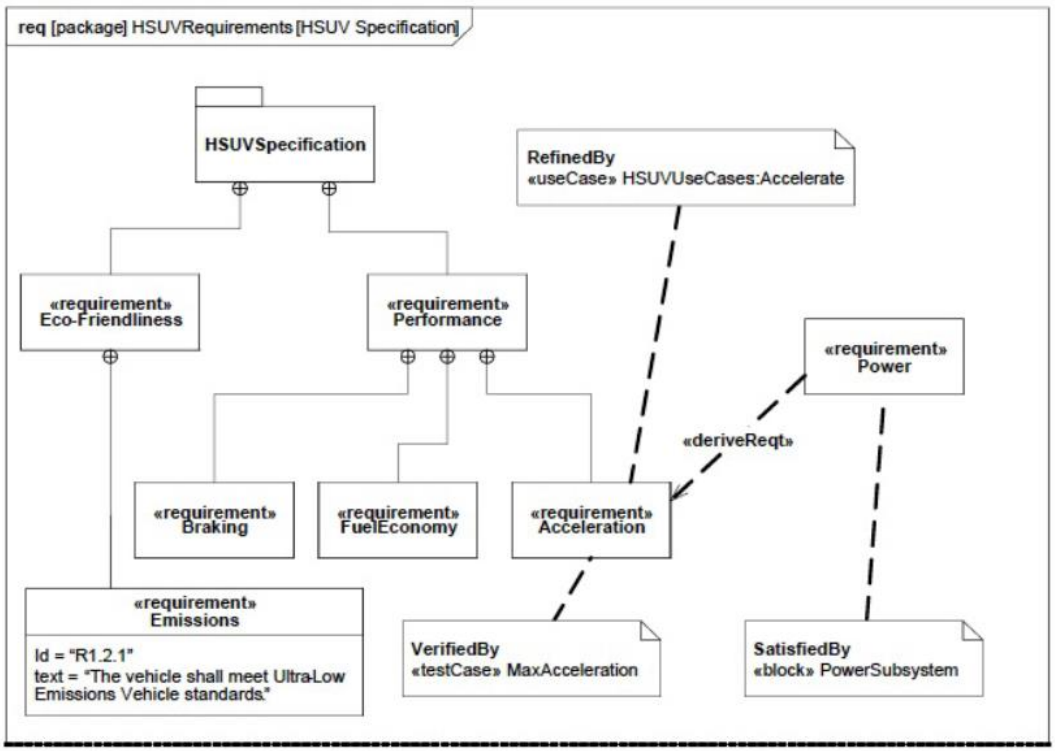
Frage 2:

Frage

What is the difference between a project notebook and a meeting protocol?

Frage 3:

Describe the content given in the following requirement diagram using your own words.



Frage 4:

Frage

What is polymorphism?

- [ ] Different implementation of one operation, e.g., + for reals, integers, etc.
- [ ] Different implementations of same functionality in different programing languages, e.g., Java, Python and C#

Frage 5:

Frage

Which information should always be part of a meeting protocol?

- [ ] Title
- [ ] Place
- [ ] Date
- [ ] Participants
- [ ] Description of content
- [ ] Description of results

Frage 6:

Frage

What are behavior diagrams in UML?

- [ ] Class diagram
- [ ] Use case diagram
- [ ] Component diagram
- [ ] State chart diagram
- [ ] Package diagram
- [ ] Activity Diagram
- [ ] Sequence Diagram
- [ ] Timing Diagram

Frage 7:

Frage

How can systems be described?

- [ ] Structure
- [ ] Purpose
- [ ] Functionality
- [ ] Responsiveness

Frage 8:

Frage

What is inheritance?

- [ ] Properties and methods of a higher-level class can be passed on to lower-level classes
- [ ] Properties and methods of a lower-level class can be passed on to higher-level classes

Frage 9:

Frage

Name some questions to be answered when outlining the system's ideas and objectives?

Frage 10:

Frage

What is always the reason for starting systems engineering?

- [ ] An idea
- [ ] A concept
- [ ] Project failure
- [ ] Low Budget

Frage 11:

Frage

Are requirement diagrams also part of UML?

- [ ] Yes
- [ ] No

Frage 12:

Frage

What is encapsulation?

- [ ] Separation of internal object state and access from outside via methods
- [ ] Separation of methods and classes
- [ ] Separation of objects and database transactions

Frage 13:

Frage

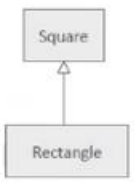
What are critical paths?

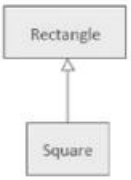
- [ ] Paths through the project plan, which cause delays of the whole project in the event of delays
- [ ] Paths through the project plan, which include more than 5 milestones
- [ ] Paths through the project plan, which include more than 10 different stakeholders

Frage 14:

Frage

Which of the following inheritance relationship diagrams is correct?

- [ ] 

- [ ] 

Frage 15:

Frage

What are UML use cases and what are they describing?

- [ ] They describe the behavior of the system using actors who are outside the system boundary but interacting with the system
- [ ] It is generally used to describe the flow of different activities and actions
- [ ] They describe the sequence of messages and interactions that happen between actors and objects

Frage 16:

Frage

What is engineering?

Frage 17:

Frage

What is a system accordingly to IEEE Std 1220-1998?

- [ ] A set or arrangement of elements and processes that are related and whose behavior satisfies customer/operational needs and provides for life cycle sustainment of the products
- [ ] A combination of interacting elements organized to achieve one or more stated purposes
- [ ] A group of interacting or interrelated entities that form a unified whole

Frage 18:

Frage

What are associations in UML?

- [ ] A connection between modeling elements
- [ ] A connection between classes
- [ ] A connection between objects

Frage 19:

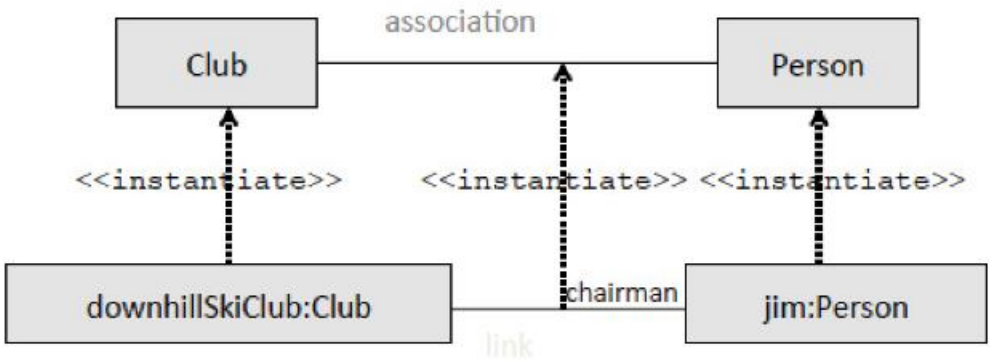
Frage

Why is project management and planning necessary?

- [ ] Without project management, far more projects fail
- [ ] Project management makes complexity manageable
- [ ] Project management reduces complexity
- [ ] The project plan is a management and control instrument
- [ ] The project plan is not always needed
- [ ] The project plan serves as motivation / justification for resources
- [ ] Project management consists of best practices
- [ ] Project management is different for every project

Frage 20:

Describe the content stated in the following UML diagram.



Frage 21:

Frage

What are possible consequences of not well designed systems?

- [ ] Hazards, faults and their related costs
- [ ] Bad usability of the system
- [ ] Unsatisfied users

Frage 22:

Frage

What is systems engineering?

Frage 23:

Frage

What are the differences between UML and SYSML?

- [ ] Changes in diagrams, e.g. block definition diagram vs. class diagram
- [ ] New diagrams like the parametric diagram and the requirement diagram

Frage 24:

Frage

What is a project?

Frage 25:

Frage

Why are state diagrams important in SYSMOD?

- [ ] They are used for simulating the system
- [ ] They are used for understanding the system
- [ ] They are used for obtaining the requirements of the system

Frage 26:

Frage

What characterizes a project?

- [ ] Uniqueness
- [ ] Start and end time
- [ ] Resources (e.g., money, personnel)
- [ ] Goal(s)
- [ ] Complexity

Frage 27:

Frage

What are common characteristics of systems?

- [ ] Structur
- [ ] Behavior
- [ ] Interconnectivity
- [ ] Actor
- [ ] Use cases

Frage 28:

Frage

What is the difference between a requirement and a potential solution?