Prof. Dr. Stefan Henkler
Modeling of Embedded Systems (UML)
Introduction Test

Fachhochschule Dortmund
University of Applied Sciences and Arts

Evaluate your skills in modeling software using the UML (1: beginner, 10: expert)

1) What is a "System"?
System is a group of entities/objects interacting with each other that create a behaviour.

2) Try to define the term Software!
Set of instructions that interact with a system to create an specific behaviour.

3) Define the Term Software Engineering
Application of knowlege to solve a problem using digital technologies.

4) What is a model?
Description on the behaviour of something.

5) What is a design?
Description on how something works.

6) What is a good design?
2 points:
- It works
- Everyone can understand it.

7) Define the term object-oriented programming
Use of abstract methods to implement a solution and create code that can be re-used.
Ex: Application Form.

8) What do you know about UML?
Language (Diagrams) used to interpret a system and make it understandable to everyone.

9) Which Software- or Systems – Modeling tools do you know?

Visio
Flow charts

10) What was the biggest Software Engineering project you realized?
- number of UML Classes / Components

Don't remember

- number of UML State Machine states

4

- number of code lines

40K ish / Don't remember

11) State Machine

Describe the main elements of a state machine

- Starting state
- Next State
- Final state
- Number of possible states.
- Exceptions

12) Class diagram

Implement a C++ or Java program and specify a class diagram for the following description.
A house may have any number of pets living in it. The two possible types of pets that can live in a house are dogs and cats. Each dog or cat has a name. An animal's house is its one and only home. You can tell an animal to make noise and it will do its thing.