**Software Engineering Definition (2)**The Application of a systematic, disciplined, quantifiable approach to the development, operational and maintenance of software; that is the application of engineering to software.

**What is software?**Instructions: What the software must do.  
Structures: Data structures, what is needed to run the software.  
Information: Scripts of information on how to run the software.

**Give Requirement Analysis Process for case study, and why best. (3)**

Focuses on what you do, not how you do it. You are defining a set of requirements that can be **validated**. There is a difference between the analysis and the design part.

1. Scenario-based models: They are from the point of view from users/actors of the system. Eg View from customer, sales rep, manager ect. Each have a different use case/view. Eg Login -> view bank account or logout or … what happens/the steps taken in a typical use case. Well defined use cases get rid of ambiguity.
2. Class-oriented models: Object oriented classes, UI/entity classes, controller classes. UML for your code classes. This shows events/interaction between these classes.
3. Behavioral and Pattern-Based models: How your system reacts to internal/external events. Ie Error Cases. Models on how classes interact with each other bases on a user interaction.
4. Data models: Relational Databases
5. Flow-Oriented Models: Models which show how the data is transformed as it moves through the system.

**Give Software Developement Process for case study, and why best. (15)  
-Characteristics of why suitable for case study  
-Describe chosen process(6)  
-Advantage + Disadvantage**

Communication->Planning->Modeling->Construction->Deployment  
Look at slides

**Problem Statement (3)  
Proposed Solution (2)  
Feasability (5)  
-Operational (probs this one)  
-System  
-Technical  
-Economic**

**Functional Requirements + Non Functional (10)**

**Use Case Diagram (20)  
  
Activity Diagram (15)**

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Swift Case??? This is needed for exam and ST2!!! Not in ST1 though**

The relationship with the sponsor

1. Inception:
2. When the relationship is being formed, when a client has a problem and you can provide the solution (you approaching them or vise versa).
3. It is important to find out who all the stakeholders are at this stage. (asking the right people the right questions
4. Elicitation: When you get more information from the client about their problem/idea. Getting a better understanding of the business goals (must be honest).
5. Elaboration: Creation of a model of requirements (These are in chapter 8). You are elaborating on the requirements given by the stakeholders.
6. Negotiation: He stakeholders discuss between each other with what is the most important things that the program must have/do. What must be prioritized.
7. Specification: Now you show the client your understanding of what they want in a standard and consistent way ie Written Document.
8. Validation:   
   a. You need to validate/test the specification document/other work products produced for quality.
9. Normally the person who wrote the document does not do this.
10. Examines the specification faze to make sure there is no ambiguity, errors.
11. The work product must conform to the business process and the product.

Feasibility study: Cost of developers, cost to develop app, if APIs need to be bought, special equipment.  
Things like uber, computers ect must be part of the developers hourly rate. Your rate must be, at least, the same as a junior software developer!

Make sure your requirements for the project are doable and relate to what you’re doing. They must be quantifiable (can be measured in some way)

**Heterogeneity**: Systems need to work/communicate with each other (**not in slide, in text book**). Eg Windows 10 not being able to use software from Vista. Therefore there is a deterioration in the software.