Software Conceptual Design
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Lecture - 15
Software Modelling

In the previous week, we learnt about the Function Behaviour Structure framework and used the FBS framework to create a software conceptual design.

Yes. The FBS framework helped me create the conceptual design for the mood based music player. So, in a way, it helped me plan for what to code during the development phase right?

Yes, that is true. Another benefit of creating such a representation is that it helps in communicating the design with a larger team. Representations that we saw in the system think and link, like the FBS graph and UML diagram, represent the design communicated in different ways and methods.

Yes, and this process of representing the solution design is referred to as software modelling.

Modelling, what is that mean? Can you please elaborate in more detail?

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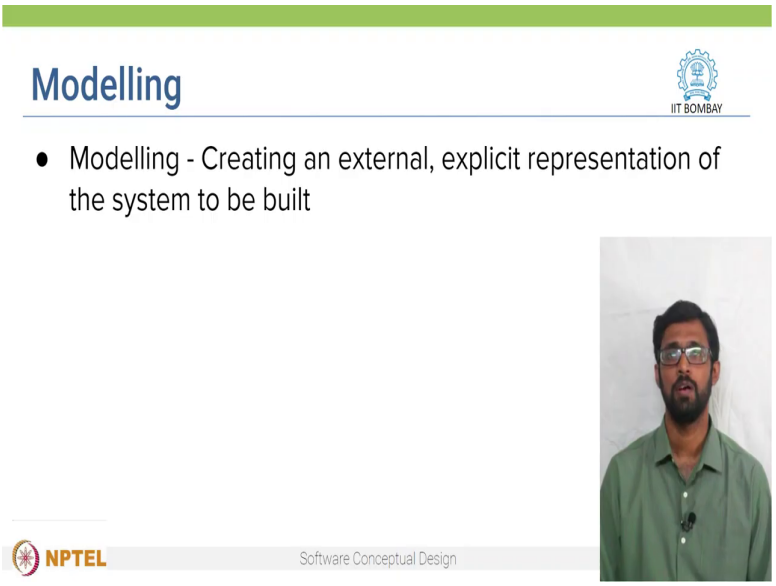

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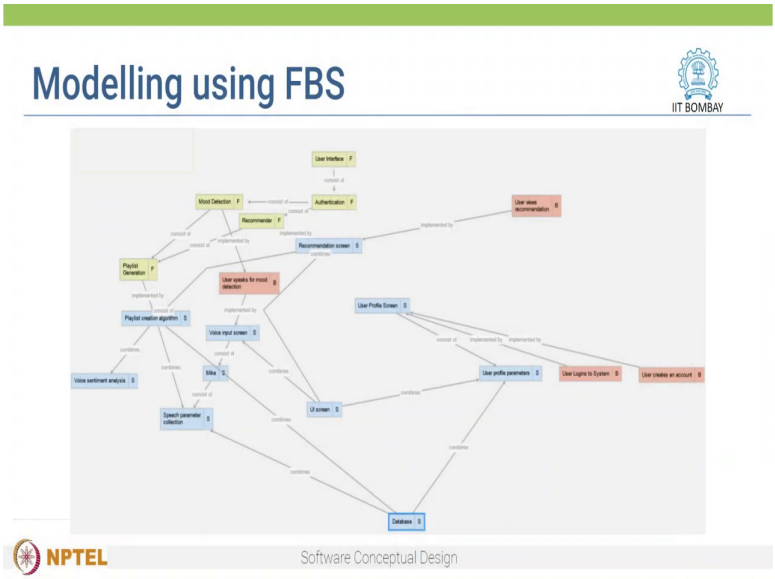

So, modelling is a way of creating an external, explicit representation of the system to be built. For example, the FBS graph is an external representation which describes the Functions, Structures and Behaviours of the system to be built. In a way, it provides an overview of the entire software solution.

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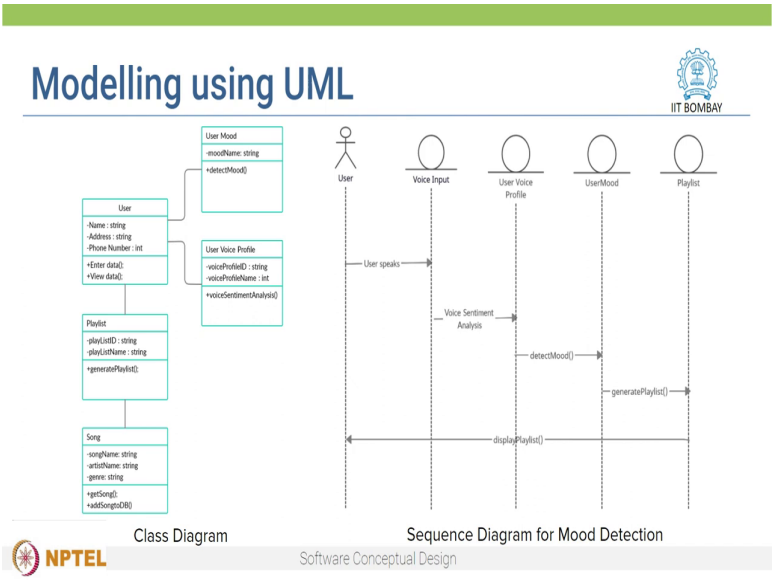

There are other models like the unified modelling language diagrams or UML diagrams, and these can help us represent the software design via multiple views and at a greater level of detail. We will learn more about modelling using these UML diagrams in the next video.

So the FBS representation is a form of software modelling. UML is another form of software modelling, why are both required?

Yes, this is an important question. Let us reflect about this for a moment.

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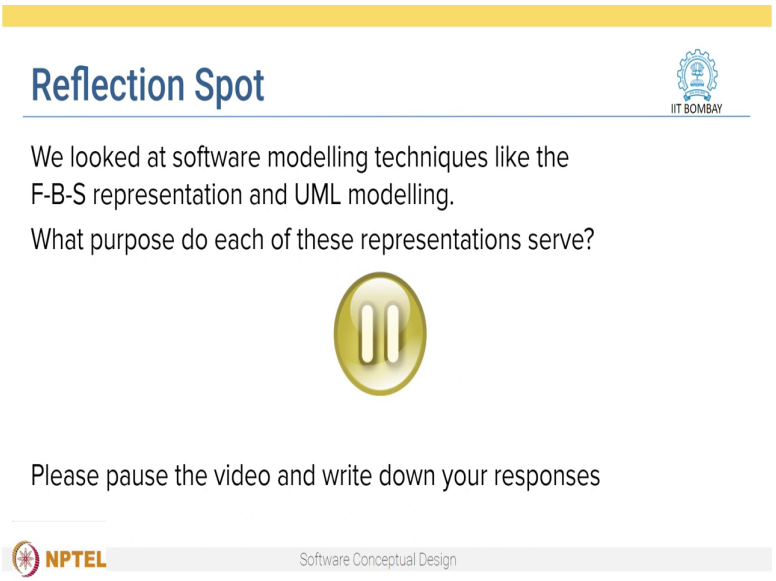

So, here is a reflection spot for you. We looked at software modelling techniques like the FBS representation and UML modelling. What purpose do each of these representation serve? You can pause your video and write your answers before proceeding.

So, both these modelling techniques they serve different purposes, based on the requirements, we can create an FBS representation as a way to create an idea or a concept of the system which we want to build. Once we have this representation, we can go into more details and create UML diagrams for the software system.

Ok, so these models are at different levels of detail.

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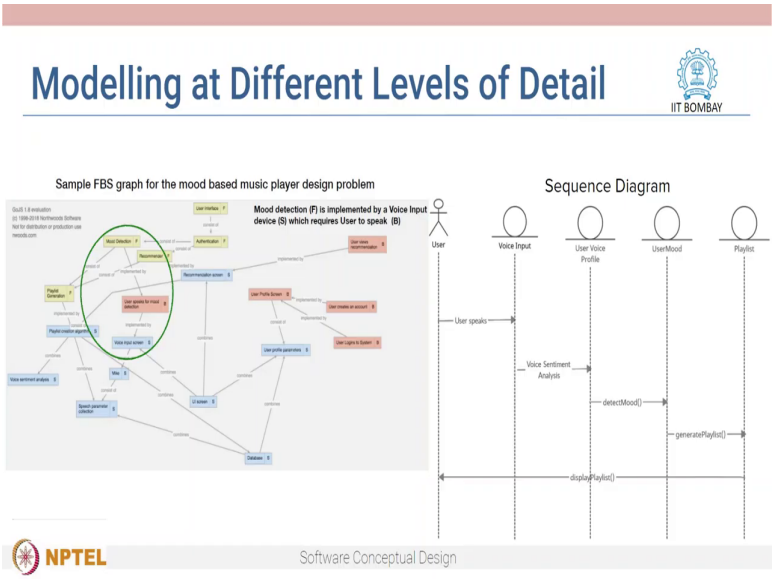

Yes, that is true. So, on the left, you can see an FBS graph of the mood based music player. A part of the functionality, which is the mood detection is detailed out in the sequence diagram shown on the right.

So, last week we have already explored a form of modelling using the FBS design framework then we understood the advantages of modelling. We were also introduced to this idea that modelling can be done through different representations. So, what is next?

Yes. So, another representation which is used is UML diagrams. We will explore modelling using UML diagrams in the next video.