

## Module 6 Extension Exercise – Detailed Design Tools

I work in **Aerospace and Defence sector** where I am involved in Design and Development of Mission Critical Softwares.

Taking example of my discipline, for carrying out the detailed design of the mission critical software, the tools which I have used and seen are:

### 1. Unified Modelling Language (UML)

UML is one of the best way to capture the design of a software through different structural and behavioural diagrams. I have used it extensively for capturing the system/subsystem design as well as requirements. Through the use of the activity and statechart diagram complete system design can be captured easily. Also the use-cases helps in finalizing the requirements which are further translated into design.

[What is UML | Unified Modelling Language](#)

### 2. IBM Rhapsody based on SysML – Based on the standardized language this tools helps drastically in capturing the design aspects through different uses cases and other structural and behavioural diagrams. At the same time the design can be verified by execution thus reducing the time and effort at the later stage if there is an issue in the current design.

[Engineering Systems Design Rhapsody – Designer for Systems Engineers - Overview | IBM](#)

### 3. Data Flow Diagrams

I have used DFDs extensively during the initial phase of the projects to capture the system functionalities/subsystems and flow of data across the various units. The DFDs give a clear idea to the user regarding the interfaces and data flow.

[What is a Data Flow Diagram | Lucidchart](#)