

## Semantic Web

Using the XML (Extensible Mark-up Language) based languages XMI (XML Metadata Interchange), RDF (Resource Description Framework) and OWL (Web Ontology Language) together allow for the creation of a Semantic Web. These document types work in layers XMI is produced by many design tools as a description of the results produced, other XML based languages may be used at this layer depending on the goal of the ontology. Below the document layer RDF is used to link multiple documents and provide very basic semantics to those documents. RDF links documents by using triples a series of document namespace document patterns. Below the RDF layer OWL is used to apply semantics to all of the documents in the web. OWL uses object oriented design methodology, making classes, applying properties to those classes, and creating an instance of that class are a few of its features. Once an instance is created its reference in the top layer document is linked to the properties associated with it in the bottom layer. A simple example is if there's a XML based document on a digital camera and other documents describing the components of a camera. Then a class named DigitalCamera could be created in OWL this class would then be linked with properties of its components the components in turn would have their own class definitions finally an instance of that class would be created using a model number or some other unique ID. The Webs linking of document elements is not restricted to just other document elements, external items such as images or code may also be added as properties. This linking will help when implementing java animation for specification productivity or in creating intelligent searches that can extract only the necessary information from unlimited resources and present them in a logical manner.