

The Exploratory Model

In some situations it is very difficult, if not impossible, to identify any of the requirements for a system at the beginning of the project. Theoretical areas such as Artificial Intelligence are candidates for using the **Exploratory Model**, because much of the research in these areas is based on guess-work, estimation, and hypothesis. In these cases, an assumption is made as to how the system might work and then rapid iterations are used to quickly incorporate suggested changes and build a usable system. A distinguishing characteristic of the **Exploratory Model** is the absence of precise specifications. Validation is based on adequacy of the end result and not on its adherence to pre-conceived requirements.

The **Exploratory Model** is extremely simple in its construction; it is composed of the following steps:

- **Initial Specification Development.** Using whatever information is immediately available, a brief System Specification is created to provide a rudimentary starting point.
- **System Construction/Modification.** A system is created and/or modified according to whatever information is available.
- **System Test.** The system is tested to see what it does, what can be learned from it, and how it may be improved.
- **System Implementation.** After many iterations of the previous two steps produce satisfactory results, the system is dubbed as "finished" and implemented.

Problems/Challenges associated with the Exploratory Model

There are numerous criticisms of the **Exploratory Model**:

- It is limited to use with very high-level languages that allow for rapid development, such as LISP.
 - It is difficult to measure or predict its cost-effectiveness.
 - As with the **Prototyping Model**, the use of the **Exploratory Model** often yields inefficient or crudely designed systems, since no forethought is given as to how to produce a streamlined system.
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