Lecture 10

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Rapid application development (RAD)

→ incremental software development process model that emphasizes an extremely short development cycle.

→ "high - speed" adaption of the linear sequential model using component - based construction.

→ Enables a development team to create a "fully functional system" within very short time periods (eg 60 to 90 days).

→ The RAD approach encompasses the following phases:

a) Business modeling: The following questions need to be answered. What information drive the business process? What information is generated? Who generates it? Where does the information go? Who processes the information?

b) Data modeling: The information flow defined as part of the business modeling phase is refined into a set of data objects that are needed to support the business. The characteristics (called attributes) of each object are identified and the relationships between these objects defined.

c) Process Modeling at last

d) Application Generation: Using fourth or above generation techniques, the RAD process works to reuse existing programs components or create reusable components. Automated tools are used to facilitate the software construction.

e) ~~d)~~ Testing and turnover: Due to re-use, many of the program components have already been tested. This reduces overall testing time. However, new components must be tested and all interfaces must be fully exercised.

c) Process Modeling: The data objects defined in the data modeling phase are transformed to achieve the information flow necessary to implement a business function.

→ The time constraints imposed on RAD project demand "scalable scope". Each major function of a business application can be addressed by a separate RAD team and then integrated to form a whole.

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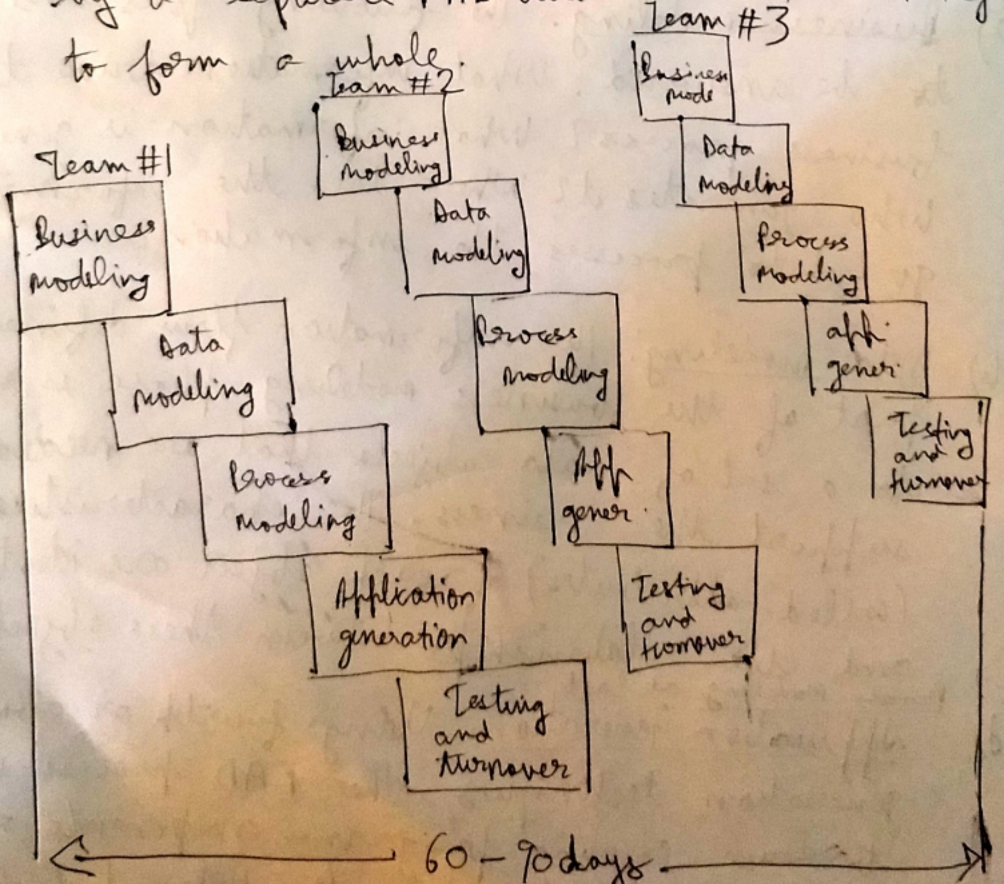

→ Drawbacks of RAD approach

a) Require sufficient human resources to create the right number of RAD teams.

b) Require developers and customers to get system complete in a much abbreviated time frame. If committment is lacking from either constituency, RAD projects will fail.

c) If a system cannot be properly modularized, building the components necessary for RAD will be problematic.

d) RAD is not appropriate when technical risks are high. Ex: Heavy use of new technology.