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Big Bang Model

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Introduction

In this document We will discuss Big bang model. its importance, advantages, disadvantages, for what types of projects we use it, and what its difference is with other models.

Before we explain the big bang model lets firs see the Software process models. Software process models provide us a way of development and define each activity of software development life cycle.

Software process models help us by giving us a complete plan for our software project. The process model defines the scope of our project, in the requirement analysis and elicitation process this is very important.

Software process model explains the various steps of the software development process. In software development identification of your assumptions is very crucial. various process models offer certain ways to solve problems.

Big bang model

After understanding process models, we can now procced to the big bang model. The big bang model is very unstructured approach to developing software. It is simple and flexible. It has its own advantage and disadvantage which we will explore in detail later.

The big bang model in software development was the earliest approach used by programmers. More structured models like the agile model came up later but before that due to its simplicity and flexibility the big bang model was very popular. In the early days of programming in the 1970 and 1960s programmers were more focused on implementation.

The tools used nowadays for software project planning and managing projects were not available at that time. Developers start coding with very small amount of planning, and they fix bugs on the go.

As software engineering is growing and expanding and as it is being used to develop critical large-scale projects the need for more structured approaches that can handle the big projects has led to the development of another models but still this big bang model is in use for projects that will require quick implementation, small projects,

Big Bang Model in Software Development

The Big Bang model is an SDLC model where we do not follow any specific process. The development just starts with the required money and efforts as the input, and the output is the software developed which may or may not be as per customer requirement. This Big Bang Model does not follow a process/procedure and there is a very little planning required. Even the customer is not sure about what exactly he wants and the requirements are implemented on the fly without much analysis.

The Big Bang Model is a software development model in which the project starts with little or no planning. Developers do not use a structured approach for design, gathering requirement or

testing.

This model can be effective when requirements are unclear or the project is small.
In big bang model there is no planning or there is minimal planning, there is no a formal and structured requirement gathering, there is no design phase as well. The focus will be mainly on coding and implementing. As requirements or problems happen modifications are going to happen.

There is no testing that is structured as well, it is best fitted to small teams, individuals' projects or experiments.

Advantages of the Big Bang model

- It is simple and easy to use. There Is no formal process and procedure.

Reduced time.

- The time and cost that is spent on planning design in and documenting should be low.

- It is very flexible as changes are going to be made easily during development since there is nothing that is predefined.

- This model can be very useful while experimenting or finding ideas.
- Small amount of resource is required

Challenges of the Big Bang Model

1. There is no planning therefore we lost all the advantages that come with it so we may not have an end product that meets all our requirements.

2. It can not be scaled to larger projects or to projects that have large complexity.

3. Maintenance is going to be harder without having appropriate documentation.

Comparison with other software development models

- Big bang vs waterfall model

  In big bang model there is very little planning but in waterfall model there is detailed planning. Requirements are collected and gathered before we start coding.

  The process structure in big bang model is that it is unstructured and chaotic, however in waterfall model there is a formal process structure in the order of requirements -> design -> Implementation → Testing → Deployment.

  In Big ang risks are not managed properly since there is no detailed planning, however in waterfall risks are managed and controlled properly.

  The type of projects that suit the waterfall model are those projects that have stable requirements and also that are large projects.

- Big bang vs Iterative model

  In big bang model there is very little planning but in iterative model we have moderate planning as the project will be developed in cycles with incremental planning.

  In Big bang development happens all at once where as in iterative model the software will be developed in several iterations improving each time.

  In big bang cost and time are not predictable but in iterative cost and time line are determined as it progress in iteration.

- Big bang vs spiral model

  in big bang there is no planning where as in spiral model there is planning that is risk driven. There is uncontrolled cost and timeline in big bang whereas in spiral model there is going to be high cost but it is predictable.

- Big bang vs Agile model

In big bang model there is very small planning whereas in agile model there is planning within each sprint there are short sprints in which we receive feedback. Agile is more suitable for projects with dynamic requirements whereas big bang is for smaller projects.