THE SOFTWARE DEVELOPMENT PROCESS

SOFTWARE DEVELOPMENT MODELS – INCREMENTAL MODEL

INCREMENTAL MODEL

- In incremental model the whole requirement is divided into various builds. Multiple development cycles take place here, making the life cycle a "**multi-waterfall**" cycle
- Cycles are divided up into smaller, more easily managed modules. Incremental model is a type of software development model like **V-model**, **Agile model** etc.
- In this model, each module passes through the requirements, design, implementation and **testing** phases

INCREMENTAL MODEL

- A working version of software is produced during the first module, so you have working software early on during the **software life cycle**
- Each subsequent release of the module adds function to the previous release. The process continues till the complete system is achieved

When we work incrementally we are adding piece by piece but expect that each piece is fully finished
Thus keep on adding the pieces until it's complete
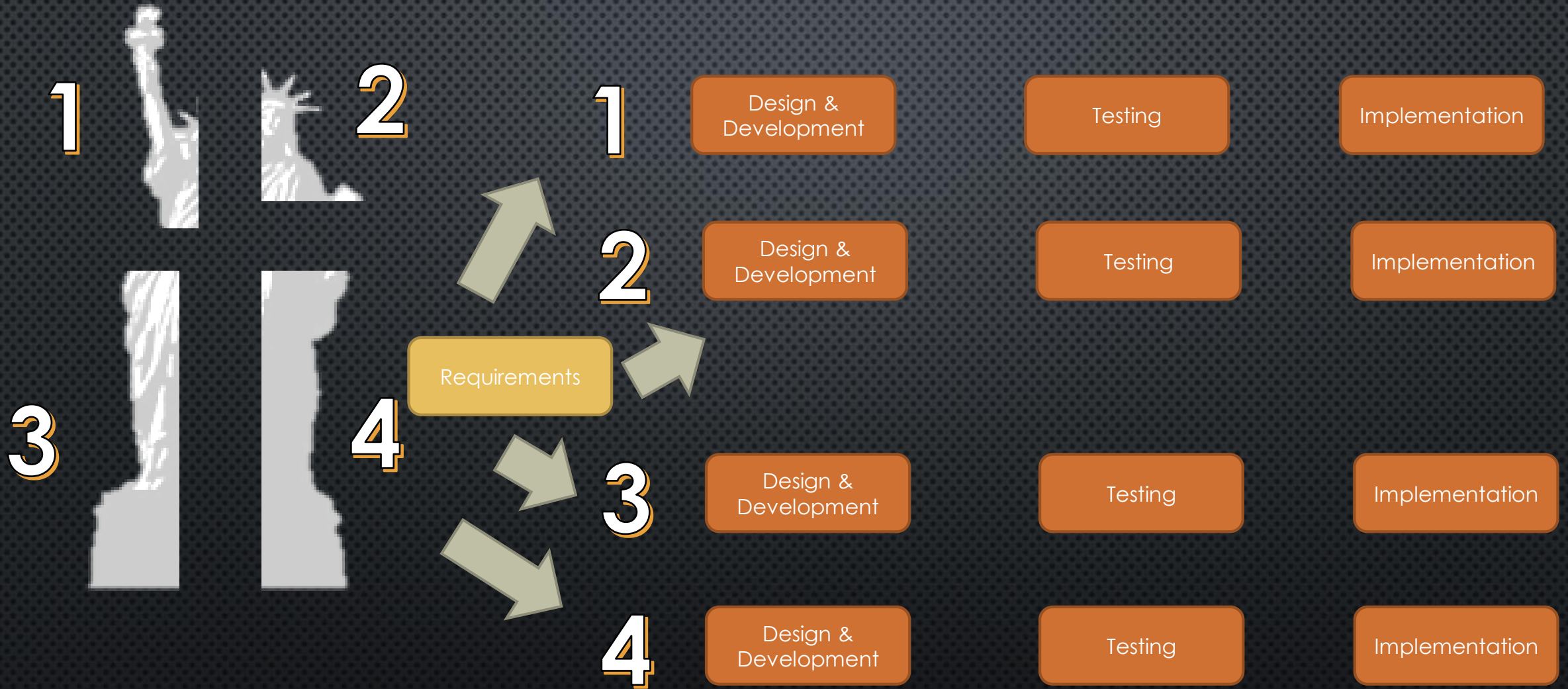For example some think to build the Statue of Liberty

Then he started building it and in the first iteration the first module of the application or product is totally ready and can be demoed to the customers

Likewise in the second iteration the other module is ready and integrated with the first module

Similarly, in the third iteration the whole product is almost ready and integrated

Hence, the product got ready step by step

DIAGRAM OF INCREMENTAL MODEL

1

2

3

4

Requirements

1 | Design & Development | Testing | Implementation

2 | Design & Development | Testing | Implementation

3 | Design & Development | Testing | Implementation

4 | Design & Development | Testing | Implementation

ADVANTAGES OF INCREMENTAL MODEL

- Generates working software quickly and early during the software life cycle
- This model is more flexible – less costly to change scope and requirements
- It is easier to test and debug during a smaller iteration
- In this model customer can respond to each built
- Lowers initial delivery cost
- Easier to manage risk because risky pieces are identified and handled during it'd iteration

DISADVANTAGES OF INCREMENTAL MODEL

- Needs good planning and design
- Needs a clear and complete definition of the whole system before it can be broken down and built incrementally
- Total cost is higher than **waterfall**

WHEN TO USE THE INCREMENTAL MODEL

- This model can be used when the requirements of the complete system are clearly defined and understood
- Major requirements must be defined; however, some details can evolve with time
- There is a need to get a product to the market early
- A new technology is being used
- Resources with needed skill set are not available
- There are some high risk features and goals