Assignment No-2

1) What is design and also explain process of design.

→ ① A simple defination is: Achieving goals within constrains.

② A system has been designed and built and only when it proves unusable do they think to ask how to do it right.

③ In other companies usability is seen as equivalent to testing checking where they people can use it and fixing problems rather than making sure they can from the begining.

④ In the best companies, however, usability is designed inform the start

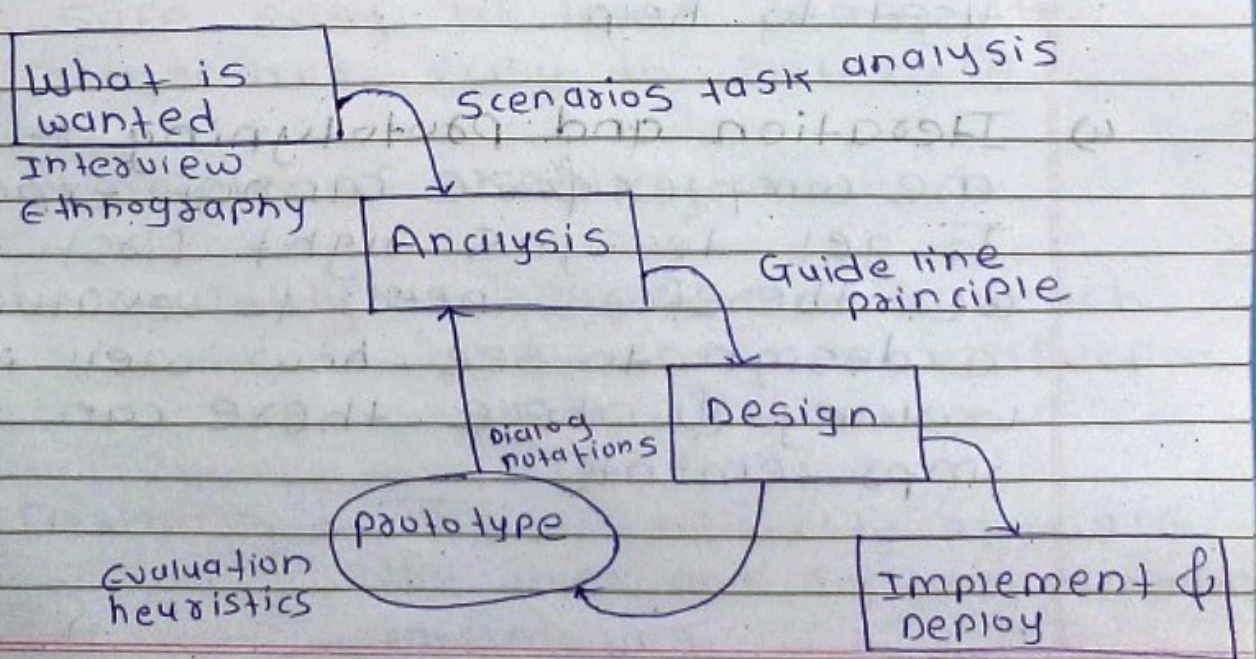

Fig-Integration design process

1) Requirements :- what is wanted the first stage is establishing what exactly is needed As a precursor to this it is usually necessary to find out what is currently happening.

2) Analysis :- The results of observation and interview need to be ordered in some way to bring out key issue and communicate with later stages of design.

3) Design :- Well, this is all about design but there is a central stage when you move from what you want, to how to do it, there are humerous rules, guidelines and design principles that can be used to help.

4) Iteration and prototyping :- Humans are complex & we cannot expect to get designs right first time we therefore need to evaluate a design to see how well it is working & where there can be improvements.

5) Implementation & Deployment :-

Finally, when we are happy with our design we need to create it & deploy it.

2) Explain Concept of usability and also explain principle of HCI usability.

→ ① Usability is a measure of how well a specific user in a specific context can use a product / design to achieve a defined goal.

② HCI assists designers and analysts to identify the needs of texts, fonts layouts, graphics, color etc.

③ While usability ensure system the system is efficient, effective, safe easy to learn, easy to remember, easy to evaluate.

* principle of usability :-

1) Learnability :- The easy with which new can begin effective interaction.

2) Flexibility :- The multiplicity of ways the user and system exchange information.

3) Robustness :- The level of support provided to the user in determining achievement and assessment of goal directed behavior.

3) Write and explain HCI in software process.

→ ① Software engineering provides a means of understanding the structure of the design process.

② That process can be assessed for it's effectiveness in interactive system design.

③ Usability engineering promotes the use of explicit criteria to judge the success of a product interms of it's usability.

④ Design involves making many decisions among numerous alterna-tive design.

⑤ Rational provides an explicit means of recording those design decision & the context in which the decision were made.

1) Requirement specification :-

- The system services / A structured document setting out detailed descriptions of the system services.
- Written as a contract between client and contractor.
- It is a collection of all requirements that are to be imposed on the design & product.

2) Architectural Design :-

- The process of defining a collection of hardware and software components and their interfaces to establish the framework for the development of a computer system.
- Building design called architectural design.
- It is very important phase because it focuses heavily on the functionality of project.

3) Detailed Design :-

- The waterfall model also known as waterfall methodology.
- It is sequential development process that flow like waterfall phase through all phases of project (analysis, design, development & testing.

4) Coding and unit testing :-

- Converts the software design into the source code using a suitable programming language.
- Each unit is developed and tested for its functionality.
- The implementation phase, also known as the coding phase.

5) Integration and Testing :-

- All the units developed in the implement tion phase are integrated into a system after testing of each unit.
- It is a type of software testing in which the different units, modules or components of a software application are tested as a combined entity.

6) operation and maintenance :-

- The maintenance phase is the last stage of the waterfall model, where the project is monitored, updated & fixed after it is released to the users.
- The maintenance phase can include activities such as performance improvement, security enhancement or user feedback integration.

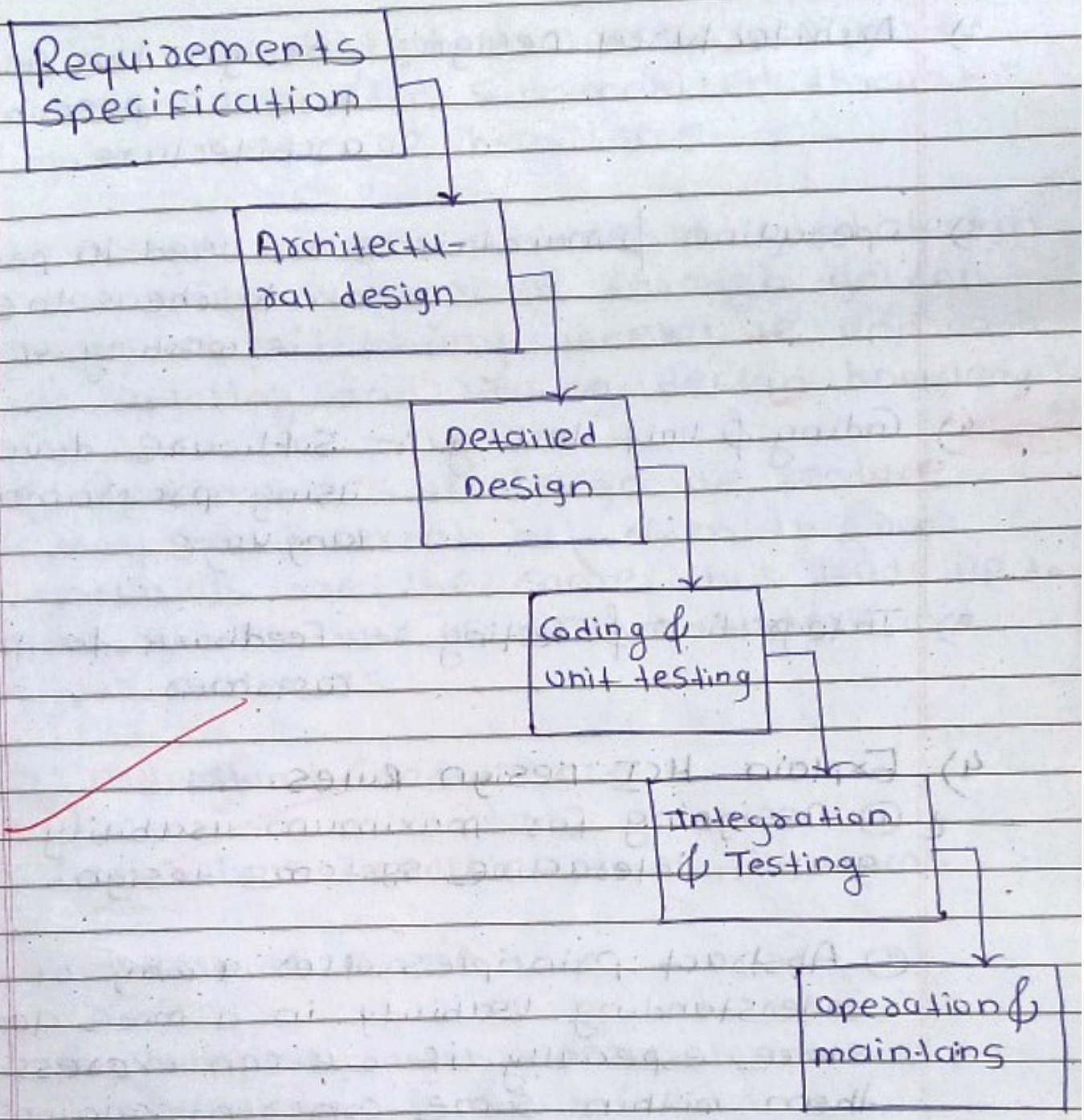

Fig- The activities in the waterfall model of the SW life cycle.

1) Requirement specification: They are collecting the information from customer

2) Architectural Design :- Design the architecture or Describe the architecture.

3) Operation & maintaince :- used in pesticular to check the syster is working or not.

4) Coding & Unit testing :- Software developed using programming language.

5) Integration & Testing :- Feedback to the customer.

4) Explain HCI Design Rules.

→ ① Designing for maximum usability is the goal of interactive systems design.

② Abstract principles offer a way of understanding usability in a more general since especially if we can express them within some concrent catalog.

③ Design rules in the form of standards & guidelines provide direction for design, in both general and more concrete terms in order to enhance the interactive properties of the system.

④ The essential characteristics of good design are often summarized through golden rules or heuristics.

⑤ Design patterns provide of good design are often summarized through golden rules a protentially generative approach to capturing and reusing design knowledge.

⑥ Golden rules of design we produce may be different but often the raw materials are the same this leads up to the golden rule of design: understand your materials.

⑦ Understand Computers :-

limitations, capacities, tools, platforms

⑧ understand people :-

Psychological, social aspects, human error.

5) Explain Norman's 7 principles.

→ ① use both knowledge in the world and knowledge in the head.

② simplify the structure of tasks.

③ Get the mapping right.

④ Make things visible : baidge the evaluation.

⑤ Design for error.

⑥ when all else fails standardize

1) Use both knowledge in the world and knowledge in the head :-

People work better when the knowledge they need to do a task is available externally.

2) Simplify the structure of task :-

Task need to be simple in order to avoid complex problem solving and excessive memory load.

3) make things visible :-

The interface should make clear what the system can do and how this is achieved & should enable the user to see clearly the effect of their action on the system.

4) Get the mapping right :-

User intentions should map clearly onto system controls user action should map clearly onto system events.

5) Design for error :-

To error is human, so anticipate the errors the user could make & design recovery into the system.

6) When all else fails, standardize :-

If there are no natural mapping then arbitary mappings should be standardized so that users only have to learn them once.

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