Question 1

A → The Agile model is good when the System requirement are not clearly stated, or when the customer can't put it in detailed structure. *so?*

→ The Agile mode provide a prototyping facility, so that every part *? a well ?*

→ The Agile is preferred in small projects while the waterfall in complex large systems. *so, what's the advantage!.*

→ The Agile make the specification & design are interleaved while in the waterfall they are partitioned into seperate Stages (inflexible partitions).

→ the agile model can evolve and respond to changes while the waterfall faced from the difficulty of accommodating to change after the project is overly.
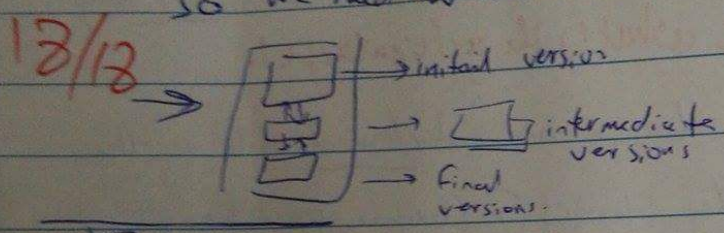
11/12

B **B.1**

→ First we can apply more than one model for each part in the project. in the friendly graphical user interface we can use the agile model ① which present a prototype in each Stage, so Customer can see the GUI in early part of the project.

→ For the GPS capability, and smart mobile, we can use the Formal ② transformation for which the location need specific mathematical representation and precision is required here as well as Saftey.

→ we can use the reuse-oriented model because we are to build a software with existing system provided from the mobil app like messaging property and GPS capability, these are provided and existed in smart mobile so we can use these existed Sub-System, and then integrate them together.

→ we can use incremental to break down the delivery and design, we can divide the System into increment and pritorise the requirement.
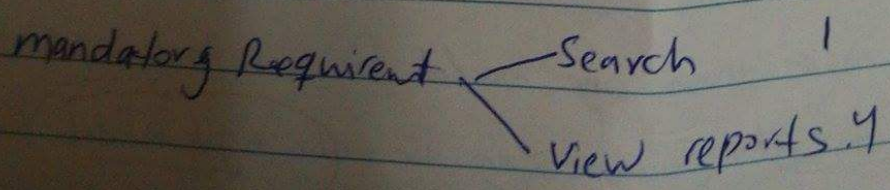
12

B.2 to develop a friendly graphical user interface, we can

6 use the prototype technique, to give the customer an

early overview of the UI so they can check and modify

anything they need to add or modify.

in the Agile, the system's actors are 7 years old

so we need to make it simple and friendly as possible.

18/18 →

→ initial version
→ intermediate versions
→ final versions.

E

① A ✓
② C ✓
③ B ✓   **16/20**
④ C ✓
⑤ A ✗

mandatory Requirement
— Search |
— View reports. ✓

Q1

$11 + 18 + \cancel{16} \; {}^{16} = $ **45/50**

Question 2

[A]   Fundemental activities in Software ~~defe~~ development process:-

[1] Specification : requirement specification, to specify the services the
System shall provide and the operational constraints in the design and develop.
(what the system shall do ?) . [include , elicitation analysis]

[2] Development : (implementation + design) : how the system well do the
specification requirement ? , includes the coding process and design.

[3] Validation : [validation + verification] : to check if the implemented
(developed) prosess ~~is~~ meets the customer's requirements.
"is this what the customer wants? "
includes ~~testi~~ checking, reviewing, testing phases.
use test case to verify the designed requirement ,in many environment.

[4] evolution : if the system can respond to any changes.
becans the system is not fixed ,and many changes can come with it ,
12/12 can the system response to these changes ?

[B]   when doing requirement elicitation many techniques can be used :-
- group interviews : meetings with customers , and can be :
  - open-interview : discuss the exploratory questions that appeared.
  - closed-interview : disscus the pre-defined and predetermined requirement.
  - focused group : interviews with a cluster of stakeholders ~~so~~ ?

I — — focus group interview : When the developers (specified to meet the customers and discuss the requirements) meet a cluster ~~of~~ (group) of customers to discuss the domain application requirents, and ~~to~~ understand the requirement well = **aspects of the system !!**

10 — ~~en~~ ethnography : is a technique where the developing company send a group of ~~anal~~ analysts to client work space ~~and~~ to observe and learn how the work works exactly, rather than just discuss the requirements ~~in~~ in meetings, they go directely ~~and speak~~ to the ~~comp~~ customer's company and see by themselves how ~~the~~ system works and operate and collect data , observe and learn to elicite the requirement .

1 — this technique is more benefitable when the system is complex and large and we can't meet all the stakeholders to understand the requirent , and by this technique we can see some details which are not specified in the description , and is critical to the system's development .

— because the operation of requirement elicitation is very crusial and important to minimize the errors and unexpected faults in the development process we need to use both techniques , we can do focus group interview with a group of stakeholders to understant the basics and we then can apply the ethnography to gain more knowledge of the system behaviour and how the system react to any changes and situation , 8 and see by their eyes the whole system operations , it is useful also in eliciting the domain application requirents that is ~~is~~ no easy to understand by the developers and may not be mentioned explicitly in the discreption .

18/18

Q2

12 + 18 + 15 = 45/50

example

when a large system involves many stakeholders like developing a car (manufacturing car) many stakeholders involves (managers, architect, engineers, analysist, endusers --)
we can make focused group with each stakeholder's group.

- for a food industry and storage, ethnography can be used to see how the system reacts to particular situation (storage)

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enter data

C 1

① ~~Ram~~ [worker] : a person who works in the company and can navigate login the system (website), request a vacation, recieves notification. (~~Ramu~~ Ram), submit requests, recieves emails.

② [System] : the website system which display a form for the worker, check the information entered, display notification of successfully submits, send altering messeges to the managers, send emails.

emails

5

③ ~~Ram~~ [HR-manger] : a person who works in the company and can recieve a submitted requests from employees (workers), approved requests.

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worker

Log in the system
enter data
Submit requests
recieve email, notifications
display forms
check forms

System

review request
approve requests

HR-manager

declined
included
send email

8
0
2
—
10

15/20