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a)

In the $\langle \text{special_character} \rangle$ definition the signs $=$, $\#$, $<$, $>$ and $|$ are used incorrectly. These signs should have "" marks around them, ie " $<$ ", " $>$ ", " $|$ ".

Also the $\langle \text{number} \rangle$ routine could not be used as

$\langle \text{decimal} \rangle$ and $\langle \text{hexadecimal} \rangle$ ^{routines} are not defined.

$\langle \text{comment} \rangle$ cannot be used either or it contains an undefined $\langle \text{uppercase} \rangle$ statement
↳ (in the 1st instance).

(ii)

$\langle \text{hexadecimal} \rangle ::= \langle \text{letter} \rangle \langle \text{uppercase} \rangle$

$\langle \text{upper_case} \rangle \langle \text{hexadecimal} \rangle | \langle \text{digit} \rangle \langle \text{hexadecimal} \rangle$

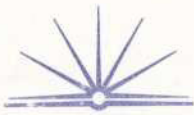
~~$\langle \text{upper} \rangle$~~ $\langle \text{upper_case} \rangle | \langle \text{digit} \rangle$.

In this ~~rule~~ rule, letter cannot be used as hexadecimal values only use upper case lettering and digits. Hence the use of $\langle \text{upper_case} \rangle$.

(b) Emerging network telecommunication technology will no doubt increase the usage of this system. Not only that, patients ~~as~~ and doctors alike will become more confident and dependent on this system. Because the 4 doctors are out of town or in different towns, emerging network technology will allow the different terminals to be greatly integrated, with faster and more reliable access. Response time of system will decrease as it ~~is~~ overcomes the problem of distance. With increased reliability and quality of the network interface, it will induce the software companies to make a better user interface (consistent, intuitive, user friendly etc) to encourage users to use it (Generally the quality of network interface will increase in the industry to keep up with competition).

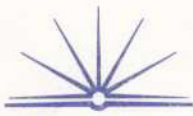
Also these doctors will become more confident in the system and become increasingly dependent on the system (partly because of the improved interface) and increase usage.

Also with the improvement in ^{network} technology, more

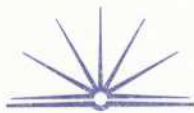


doctors are able to log onto this system, with almost an immediate response (real-time processing).

More patients records may be stored in this system.

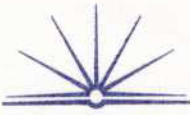


c.i. The system analyst could involve the user in the process of defining and understanding the problem through the use of a prototype. Prototype is a software development approach which can either be used to gather information or be used to develop into a working solution. In this particular case, the analyst



can involve the different types of users through the use of prototype in which the analysts gather information by ~~inputting~~ asking the users to try out a new prototype. ~~These info~~ The information gathered from a prototype can ~~then~~ then be transformed into the requirement.

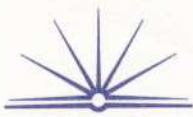
Another way the ~~ss~~ analyst can ~~go~~ involve the user is through asking the user questions through querying and questionnaires. In this way the user can get involved. But the best way is still through the prototype in which the user can ~~the~~ highlight the success and failure of the prototype.



and thus be involved with the analyst.

ii. There are four different types of software development approaches that can be adopted. They are structured approach, prototyping, rapid application development, and end user.

Structured approach would involve the analyst gathering information on the existing workings and operations of the system and then plan, design and build the solution. They would then ~~be~~ have to test and implement it as well as modify it. This approach is very formal and costs a lot of money. The time



frame required. for this approach is long and thus will not be suitable for the network communications systems

Prototyping is the creation of a working model and gathering information or letting the user work on it and then modifying the prototype, so that the prototype is working. This ~~solution~~ ~~incre~~ approach ~~increases~~ interactivity ~~and~~ ~~user~~ involves the user not to mention that it is cheap as well as taking less time to implement. This solution is thus deemed appropriate for the implementation

of the network communications network.

Rapid application approach refers to any method used to achieve a faster solution.

This ~~word~~ might ~~not~~ involve using of CASE tools. This might be appropriate ~~at~~ when used in conjunction with the structured approach to reduce the time frame required.

End user approach refers to the adaptation of the available features available ~~to~~ by the user so that the problem can be solved. Because the implementation of the network system is a technical



process, this approach is not suitable as the user would not know how to operate it.

It is thus deemed appropriate for the structured approach to be combined with both RAD and prototyping in ~~the~~ ~~implementing~~ the approach to the network communication systems in order for the time frame of the operation to be reduced.