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SCHOOL OF MATHEMATICS & COMPUTER SCIENCE

Reflections on a Software Engineering Project – CAD System

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BSc Computer Science (AI)

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TASK 1

This project was started when IAL Company was selected for suppling the system without any mobile data. The vendors developed CAD in the context of supporting a professional policing model. The two major objectives of the system are satisfying all citizens with quick responses to every service and always relying on accurate information on the locations and status of ambulances (Adamu et al., 2010). The system was intended to provide various capabilities which includes minimizing the overall time needed for dispatching patrol units along with providing tools that helped the managers in allocating all resources much more efficiently.

TASK 2

When the CAD system was deployed there were various operational failures. The system failed due to the number of new emergency calls that have overridden the old calls which weren't picked up. As calls piled up within the system, the memory gradually became full which caused the system to crash (Finkelstein, 1993, p.45). Another factor that caused the system to fail was the user interface, which was poorly designed. In addition to that, CAD failed due to lack of training of the staff. It also had a massive influence on its operation by the staff, as they had to familiarise themselves with the system on a short notice (Adamu et al., 2010, p.3).

TASK 3

From the perspective of software engineering, the CAD system has failed due to many factors. The first factor is the exception message that is generated by the system. This message appears when calls have not been answered. The more calls added to the queue the slower the system becomes. This problem could have been avoided by making sure calls are being answered on time or rapidly. Another example that caused system failure is the poor interface between crews, MDTs, and the system (Finkelstein, 1993, p.39). There are multiple ways for avoiding these factors. Firstly by avoiding the failure of crews to press the correct status button owing to the nature and urgency of certain incidents. Secondly by making sure that there are no swapped or missing callsigns. Another factor from a software engineering perspective that caused system failure is the unreliability, slowness, and operator interface of the system (Finkelstein, 1993, p.40). When the system went under a load of instructions it slowed up and locked the screen. One of the solutions to solve this problem and avoid system failure was to manage the software resource allocation errors and speed up response times for certain activities that are screen-based.

TASK 4

The first factor that led to CAD failure which is not related to software engineering is the lack of staff training. Staff had very little knowledge about the system, and they had a short period of time to practice handling the system. Project management is the second factor that had led to system failure. The contract to SO was to take on the overall project management responsibility. This role later became ambiguous which resulted in the SO not being able to manage their own role, making LAS by default responsible for their role ((Finkelstein, 1993, p.40). The third factor is the Staff Consultative Arrangements. There was poor communication between staff and staff associations. On the other hand, senior LAS managers have presented an atmosphere of mistrust (Finkelstein, 1993, p.52). This could seem astounding given the explanations made by management that they needed to be vote-based (democratic), yet the apparent sidestepping of staff delegates caused a lot of friction.

REFERENCES

Adamu M., Alkazmi A., Alsudyani A., Al Shaigy B., Chapman D., Chappell J., 2010. London Ambulance Service Software Failure, pp.3

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