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Fire Department, City of Gotham (FDGC)
Gotham City
August 31, 2009

GC-FEDS Replacement System: Request for Requirements Modelers

Dear Team XXX,

I am writing to you on the recommendation of Dr. Cleland-Huang and Dr. Gotel to request your services and assistance in a matter of great importance.

The current Gotham City Fire Engine Dispatch System (aka GC-FEDS) is 25-years old and needs replacing, urgently. There is no documentation, so I have spent some time recently speaking to my dispatch operators, fire crew and the general public, and I think I have a good grasp of what the problems are with the current system and what we need to do. Please consider my observations below.

When a 911 call comes into our dispatch center, our dispatchers currently fill out an online form to collect incident information from the caller. Our dispatchers are not happy with all the irrelevant questions they need to ask and really loathe the text-based green-screen user interface. Nonetheless, the system logs all the information they enter and presents the dispatcher with a list of nearby ladders (i.e., fire house), along with their resources and associated phone numbers. This is tricky when the dispatcher can't understand the caller and enters incorrect or imprecise location information. Anyway, each dispatcher has an amazing grasp of Gotham City geography and landmarks, and they are further trained to make a decision on the nature and urgency of the incident, and so they are entrusted to call up an appropriate ladder to request dispatch (i.e., the closest one to the incident with suitable resources). If the ladder has all its required resources out responding to other emergencies, then the dispatcher needs to call the next nearest appropriate ladder. This can obviously lead to delays! Also, if the incident is a huge one, then it is the dispatcher's responsibility to ensure that sufficient resources are deployed to match the needs of the incident. This is a very stressful job and we are having trouble retaining our dispatch staff. The training takes time and the cost is quite considerable. We also have the problem of duplicate calls, which are difficult for the team of dispatchers to identify and often leads to multiple resources being dispatched to the same incident. This annoys our fire crews. While our dispatchers have evolved a nifty system to help them, it has its flaws. They have placed a big map of Gotham City on the wall of the dispatch center. It has an inventory of equipment and staff for all the ladders marked up on it. The dispatchers then use Velcro flames and fire engines that they move around manually to help them maintain some form of situational awareness.

Once a ladder has confirmed dispatch, the dispatcher logs the dispatch into the system. The ladder then needs to remember to call back the dispatch center after it has responded to the incident to close it, since the current system is non-networked. The fire crew does not like to do this because, in their mind, their job is done when the fire is put out. So, in many cases, they forget and the status data starts to get out-of-date. The system is meant to keep track of which resources are currently dispatched and which

are currently available but, as you can imagine, this accuracy is entirely reliant on the dispatchers. We rely on real-time data, so we need to find better ways to obtain this.

As the pace of Twenty-First Century city life grows ever faster, GC-FEDS is no longer able to help us to respond to the new emergencies we face in a timely fashion. For example, the trend of using scented candles amongst the large student population in the city means that we end up having multiple units respond to every single 911 call from the highly-strung students in a shared dorm on a Friday night. Also, a more critical demand coming down from the top (the GC Mayor) is that we need to improve upon our customer quality of service metrics – like time to respond to and close an incident, successfully. The above issues are just some of the realities that presently contribute to mistakes and slow responses. We can neither afford nor accept the consequences.

The City of Gotham therefore intends to procure a replacement system for GC-FEDS and I will sponsor this project in my role as Faux Fire Chief of the FDGC. The system will be used to log calls to the 911 services and then to identify resources to be dispatched to the incident, if required, in an intelligent manner. Incidents will need to have just the pertinent information associated with them to make judgement calls about location, scale and severity, acquired as quickly and effortlessly as possible, and the system will need to retain up-to-date information about the availability and location of resources to assist allocation and dispatch. We need to distribute some of the responsibilities for data entry more appropriately, while not getting in the way of our fire-fighting professionals. We want the situational awareness map to be purely electronic.

As you are probably aware by now from reading this letter, the GC-FEDS project has a potentially enormous scope and endless possibilities in terms of solutions. This is the reason why I am seeking the services of your team. As expert requirements modelers, using state-of-the-art modelling techniques, I have been informed that you can help me to get a good grasp on the essence of the problem that needs to be tackled here and that, in further consultation with me, you can begin to model what we may be looking for in a new GC-FEDS. To start this process, I would request that your team prepare a single transparency to communicate its understanding of the current problem, as you see it from your reading of this letter, and we can proceed from there when we meet. Please use only the ONE modeling technique that I am procuring your services for because I do not want to be confused by 100 new things! It would also help me greatly if you would duplicate what you have on this single transparency on a single large flip-chart sized piece of paper, because sometimes my spectacles fail me.

I am seeking far and wide to ensure that I engage just the right team of professionals to best help me to explore the requirements for GC-FEDS going forward. I would therefore be very pleased to meet with your team in person at 16:00 hours on Thursday 3rd September 2009, in Salon II of the Marriot Hotel in Atlanta, Georgia, USA.

Yours in earnest anticipation,

Smokey Ladder