When the System is Down
Professional Communication During Urgent Technical Issues
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Incident Resolution

o Modern technology is updated quickly, creating a continuous cycle of improvements and opportunities for things to break.

o An incident response team will need to fix issues and communicate with one another while doing so. Effective communication when fixing an issue will help bring resolution quickly.

o This project started by investigating the effectiveness of communication tools when trying to fix a technical issue. Instead, this research discovered that the tools being used do not matter as much as meeting communication goals.

Methodology

Qualitative Interviews

Semi-structured qualitative interviews were performed with seven responders to technical incidents. Interviewees had a variety of IT backgrounds and work experiences that kept the results of the research from being influenced by one company's culture, or biased by only interviewing one job role.

Sample Questions

o If you could make one change to the tools you and your organization use to communicate when there is a technical issue, what would it be?

o What do you feel are the most/least useful technologies when communicating with others to resolve an issue and why?

o What tools of communication do you use to communicate with your co-workers when attempting to resolve an urgent technical issue?

Determining Communication Goals

Themes found in the interview transcripts were highlighted in the theme's color.

These themes became Communication Goals that need to be achieved when trying to solve an urgent issue.

Conclusions

o How people use communication technology does not matter so much as what they use it to do.

o Ultimately, one communication tool is no better than another for communication during a technical issue.

o Rather than focus on communication tools, it is best to ensure an incident response team can achieve communication goals.

Communication Goals

"We have groups of people that speak that same language, but one person is on one side of technology and one person is on the other side of technology. And they still don't understand each other. It's no longer a language barrier, it's a technical language barrier."

Emergency Technical Communication

Complex ideas need to be explained to both team members and other interested parties who need to understand the underlying technology well. This can require explaining things in simple terms, and sometimes may even require sending images.

"The thing I learned at the beginning is that emotion comes in quickly and catches you by surprise. I tried to keep a calm demeanor, and when I didn't, I'd catch other people freaking out."

Emotional Support

Technical incidents are stressful situations, but proper communication keeps team members calm and productive. Communication is aided when team members aren't worried for their livelihood, or being blamed for the issue.

"Not that I don't want to have questions, but during an emergency, I want to disseminate information and then get back to solving the problem."

Fielding and Shielding Questions

One person can gather incident information and pass it onto anyone with questions, shielding the technical team from answering questions. This lets the team get to work, while still providing answers to questions from stakeholders.

"It worked to just say 'No off topic chatter' while we're troubleshooting. Then people wouldn't chime in with their cat jokes."

Avoid Noise

Noise refers to anything that detracts from communicating about the issue at hand. Noise can range from gossip in a chatroom to dogs barking during a phone call. Noise should be reduced as much as possible.

"Information gets put out in real time and anyone can see it and contribute information here or there. They'll be able to say that is where we're at, this is where we're not at. You can quickly jump [in] and see 'hey, this is a conversation that I've missed.'"

Information for All

Choose forms of communication that let people join in at their own will, and see any information they need to see in one location. Having a central point of record of all steps taken towards incident resolution can help during the incident and post-mortem.

"There may be a race condition of two people trying to solve an issue at the same time. People need to explicitly state what steps they are taking…. You don't want to destroy evidence or step on someone else's work."

Coordinating Teams

Coordination is needed so team members are not handling too many pieces of the issue at once, or affecting someone else's work. Everyone should know what everyone is doing at all times, how long those steps will take, and what steps are for the future.