

## **Software Engineering Case Based Learning Exercise**

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### **1) Twitter Case Summary**

Twitter started as a side project of some of the employees of Odeon Inc. in 2006. It had immense growth nearly 1000 % growth/year and soon became the micro blogging platform of choice for majority of Internet users. It had 400,000 tweets per quarter in 2007. This grew to 100 million tweets per quarter in 2008. By 2010 there were around 175 million users, 90 million tweets per day and around 500 million searches per day. Twitter was initially built with time to market in mind. So the architecture and technology to build twitter was chosen such that they can build the site in a very short time. Twitter was not designed with this kind of growth in mind. So Twitter had lot of outages especially during popular events such as 2008 Macworld conference keynote address. The main task assigned to our team is to come up with a new architecture that addresses the scalability problems of twitter. We have to identify the most important goals and architectural drivers for twitter and we have to redesign the twitter architecture based on these architectural drivers. We have to identify what COTS components we can use in this architecture and come up with a deployment architecture so that twitter can meet its rapidly growing demand and does not encounter any outages or availability problems.

### **2) Twitter Case Challenges:**

- Challenge 1: What are the architectural drivers, assumptions and major constraints? Give details of at least 5 decisions related to major architectural strategies.
- Challenge 2: Give the architecture in terms of system decomposition (as a diagram and text), structure, connector and component responsibilities.
- Challenge 3: Give examples from your architecture to exhibit various basic design principles.