CS 3354 — Software Engineering, Activity 1

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Software is more than just theory. While theory is important, it may never be used by a company or come to fruition without monetary incentives. Companies must start with customer problems and attempt to find a direct solution. They begin by writing a short (6-8 page) document explaining the motivation behind developing the problem, predicted costs and budget, and timeline. Amazon uniquely holds a press release and FAQ session to address potential concerns with the project, security, and write unit tests.

All of this happens prior to any real development and scrum and agile techniques. The development begins with creating an Minimal Viable Product (MVP). This is done with the assumption of having to be scaled later, and can lead to stricter constraints on data. The constraint of scale can cause significant challenges with development. In larger companies, having to transfer petabytes of data, often at rates of Gigabytes for second can cause significant issues, and Data Architects must design systemts to manage this. In addition, constraints with updating multiple records simultaneously in relational databases, using clusters of data, can address these issues.

There are many different methods for developing the full project. Waterfall systems decide on deliverables initially, and then attempt to execute them throughout the course of the project. In contrast, AGILE uses small cycles, called “sprints” to organize tasks, and allows more flexibilty throughout the course of the project. Overall, these processes allow the cost of products to be reduced significantly.