9. Maciej Penar and Wiktor Zychla: **Object-Oriented Build Automation - A Case Study**

Fast and precise build and deployment automation is fundamental task for every project oriented on rapidly appearing changes. In general, the tools used for this task work as procedural-declarative frameworks - often overlooking the extra requirements for large projects like easy parallelization, precise targeting of specific subsystem or general code readability. In this article we document our findings in build automation as we have abandoned the procedural-declarative approach to object-oriented perspective of our setup environment - all implemented in .NET build automation framework Cake Frosting. Due to the clear distinction of various layers of our system and our codebase we are able to fire up our new build-deployment routines at ease. As the whole routine is written as a console application in C# we can easily manage the parallelization of chosen task which results in great drop of job execution time. To further improve the execution time, we introduce the concept of proof-of-work which is a file that stores the information about last successful build. Together, all of our concepts resulted in blazing fast build-deployment routine - as in pessimistic scenario we managed to drop to about 30% of the original time. Our findings can be easily incorporated to any other project written in .NET or one that is build using command-line application.