Developing IT Applications without Coding: An Experiential Inter-Team-Based Approach

TREO Talk Paper

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Abstract

Teaching of basic coding and programming is paramount to most management information systems undergraduate curricula in business schools. Yet, many contemporary industries seek technically knowledgeable business graduates who do not necessarily have programming skills to perform jobs in IT applications development projects. Aside from coding, numerous other tasks are equally necessary for hybrid business managers. We define hybrid business managers as experts in their respective functional areas who likewise possess strong technical skills useful in translating business knowledge to IT knowledge, and vice-versa.

In this TREO talk, we share experiences on developing an inter-team-based teaching approach for an introductory business information technology course at the undergraduate level that prepares students to become hybrid business managers. A goal of the teaching approach is to deepen the understanding of students on the broad relationships among business concepts, applications development processes, and related tools and resources, without necessarily immersing in entrenched coding. As such, students partake on building modern businesses as members of business teams, and then developing IT applications that drive or support said modern businesses as members of IT teams. Students interactively perform a variety of roles throughout the course: business owners, project sponsors, business analysts, project managers, systems analysts, and testers. The approach prescribes the use of contemporary business process modeling, applications development and project management tools following a hybrid agile methodology for developing IT applications. Tools were used to develop business models and project plans, track deliverables and milestones, manage business requirements and project scope, create IT designs and mock-ups, and perform user-acceptance testing. The approach has four main stages:

1. Business Creation. To develop creativity and teamwork, students form teams as business owners tasked to build modern businesses capable of competing in contemporary markets. Teams in this stage are regarded as business teams.

2. Business-IT Application Elaboration. Aligned to a set of business success criteria, business teams identify IT applications crucial to driving or supporting processes in their modern businesses. During this stage, students expand their roles as business analysts.

3. IT Application Development. In this stage, student teams perform the roles of IT teams to develop IT applications on a mock-up level. However, an IT team can only develop an application that they did not identify themselves (as business owners) in the previous stage. Thus, larger project teams are formed by merging an IT team with a different business team. Business teams now act as project sponsors while IT teams act as project managers and systems analysts, i.e., an IT team develops the application of their business team counterparts.

4. Application Testing. In this stage, business team members engage in user-acceptance testing as testers. Testers validate whether the business requirements have been completely satisfied by their IT team counterparts through the mock-ups, and IT teams refine the mock-ups as necessary.

Students hone their communication and collaboration skills crucial to the success of IT projects. The result is a fully interactive and experiential approach within the classroom as students learn industry best practices on applications development without coding.