

# **THE APPLICATION OF RUP AND SCRUM HYBRID SOFTWARE DEVELOPMENT METHODOLOGY (RUPiSM) FRAMEWORK IN CASH ADMINISTRATION MODULE DEVELOPMENT**

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A tremendous number of software development methodologies (SDM) includes pure and hybrid, emerged recently to satisfy the stakeholders and project itself. Thus, to decide the method that fits the project is crucial, due to the escalating percentage of project success. This project proposes a hybrid SDM framework to substitute the current improved methodology, Application Development Information System (ADVISE) and Scrum practice. The foremost contribution of this work is the development of hybrid framework, RUPiSM, which is established by a couple of the best practice approaches, Rational Unified Process (RUP) and Scrum methodology, in order to emphasise the definite strengths; documentation, team communication, customer involvement, and product quality, yet to suppress both weaknesses. It is achieved by exercising Agile workflows into the preserving RUP Incremental Life cycle Iteration Pattern, while sprints are implemented in Construction phase and the ordinary flow is applied in the rest of the phases. To test the effectiveness of the proposed framework, RUPiSM is carried out in the development of Cash Administration Module (CAM) in Pintar ID Suite Solution (PIDSS). At the end of the project, Software Requirements Specification (SRS) and Software Design Description (SDD) are produced by applying Unified Modeling Language (UML) and Entity Relationship (ER) model techniques. Furthermore, .NET, C#, ASP.NET, and SQL are used to develop the system. It was found that the proposed framework is superior when the planned artefacts can be delivered based on the Gantt chart. In particular, the framework able to produce a workable product increment at the end of every sprint and finally become the high-quality system and met customer requirements. This hybrid framework is beneficial in the future work to measure the productivity and customer satisfaction degree.