



**Construction Industry Development
Board Malaysia**

**LAPORAN MILESTONE, AKHIR KEWANGAN DAN
AKHIR ASET**

**CONTRACT ADMINISTRATION: INFORMATION
TECHNOLOGY FOR CLAIMS AND DISPUTES IN
CONSTRUCTION**

NO.PROJEK: CREAM/09-02-11-ST6-SA2-016

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Executive Summary

Claims are part of the life of construction projects. However, when comes to the management of claims the parties involved often discover that the claims submitted or the decision to reject a claim fail to stand the scrutiny of other parties due to the lost (or lack) of evidence, failure to observe the deadline, failure to abide by the procedures stipulated the conditions of the contract, and many other reasons. These problems often have the root in the lack of an IT-based information system to assist the contract administrators in managing the claims, tracking the deadlines, and documenting the evidence.

The research project aims to develop a Web-based construction claims management to address the aforementioned problems. The research is jointly carried out by researchers from the Universiti Tunku Abdul Rahman and The Pennsylvania State University, USA, with RM 160'690 research grant from the Construction Research Institute of Malaysia (CREAM). The aim of the research is achieved through the following objectives:

1. To study the existing practice of the Malaysia construction industry in managing claims to identify the areas that IT-based information management system may contribute to better manage the whole process.
2. To develop a framework for better managing the processing of claims between the client and the contractor, and also between contractor and sub-contractor that will facilitate the capture and sharing of the knowledge with the aid of IT.
3. Development and evaluation of a prototype Web-based claims management system based on the findings from objectives 1 and 2 using the latest Web-based technology.

This research involved a thorough review of existing literature on claim management issues and relevant research in this area. A series of semi-structured case study interviews with interviewees at the level of project manager and above from construction firms, consulting practices, developers and other relevant parties, were conducted subsequently to gather detailed information on the best practice and shortcomings of current practice for managing claims in the Malaysia construction industry. Based on the findings from the case study interviews, the areas and processes where ICT can help to better manage claims were identified and analysed in detail. A prototype IT application to assist in managing the processing of the claim, and which can also facilitate the capture and sharing of the knowledge about claim was developed and evaluated. When this report is prepared, the research team is exploring with CREAM, UTAR and other parties on the arrangement to commercialise the system.

A number of papers were published or are being drafted to be published at international conferences and journals, and the system has been presented at seminars for researchers and practitioners with positive response.

Task 2: Development of a Framework and Prototype Web-based Application for Better Managing the Processing of Claims between the Client and the Contractor, and between the Contractor and Sub-contractors

Methodology - This will involve detailed study on how the functionalities required to be incorporated into the framework of the system. Subsequently, the framework will be encapsulated into a prototype application which can be hosted in the Web environment.

Activities to be undertaken as part of this task include:

- a) Specifying a format for representing the framework to ensure that it can be incorporated in a Web environment, and identifying appropriate tools for achieving this.
- b) Develop the framework and represent it in the specified format.
- c) Encapsulating the framework into a Web-based application using ASP.net technology to facilitate the hosting of the application in a Web environment.

Output – Framework and the prototype application for claims management

Task 3: Testing and Evaluation of the prototype Web-based Construction Claims Management System

Methodology - The prototype application will be hosted in internet to make it accessible to the industry partners for the purpose of evaluation. Detailed questionnaire or forms will be designed to allow the evaluation on the various aspects of the system.

Activities to be undertaken as part of this task include:

- a) Hosting the prototype Web-based Construction Claims Management System through an internet company and making the prototype accessible to industry partners through internet.
- b) Design and planning of the prototype evaluation. This will involve the detailed design of the questionnaires and other forms to be used for the purpose and collating and analysing the results. As far as possible, these will be kept simple so as to facilitate early return of the completed forms.
- c) Giving demonstration to the industry partners on the operation and functionalities of the prototype application based on which the evaluation questionnaires or forms are completed. Alternatively, the industry partners will access the prototype application online, complete the evaluation questionnaires or forms and return them to the research team.
- d) Investigating the feedback from the industry partners and making improvements to the framework and design of the prototype as appropriate.

Output – Report on the result of the evaluation of the prototype and plan to further improve the system

Task 4: Dissemination and Exploitation.

Methodology - The philosophy to be adopted in the dissemination and exploitation of the research findings is based on reaching the maximum number of construction industry professionals possible, and providing proactive support for industry partners that plan to leverage on ICT to improve the management of claims in their projects.

Activities to be undertaken as part of the dissemination and exploitation task include:

- a) Industry-focused workshop will be organised to share the findings of the research with CIDB members.
- b) Presentations at professional society meetings on the framework of the Web-based claims management system and how best to implement it in construction company.
- c) The setting up of a Web site to publicise the findings of the research project and to provide general background information on the project.
- d) The writing of technical papers for publication in refereed journals and international conferences. Emphasis will be placed on those journals and conferences that have industry-wide appeal.

Laporan Akhir Aset

Only the following items are purchased using the research grant, for which the purchasing documents are attached in the section for the project account:

- A laptop – RM 5635
- A mobile broadband modem – RM 138
- SMS gateway

Laporan Akhir Kewangan

As shown in the documents attached.