Employing Intelligent Information Systems Technology for a Noble Design of Electronic Working Logs and Implementation

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ABSTRACT

Focusing on the inconvenience of the traditional hardcopy working log sheets used in officers, this work proposes an Intelligent Information Systems Technology based a Noble Design of Electronic Working Logs (EWL) and employs this dedicated tool to a real agent. There are some special features in this work: i) Easily operational interface, users can simply and instantly inquire the on-line request of the EWL; ii) Instantaneously monitor the situation, supervisors can cleanly scrutinize the events; iii) Forever preservation, agent can conserve the electronic working logs forever due to the EWL. This work also implements the proposed EWL in a real officer agent and obtains some successful results.

KEYWORDS


1 INTRODUCTION

Intelligent Information Systems and E-commerce Technologies are widely spend in many filed listed in [1]-[27]. However, up to now, there are few documents exploring the application of this technology in officer working logs.

There are some drawbacks in conventional hardcopy working logs for officers: i) too much time consumption; officers should accomplish the corresponding data for the conventional hardcopy working logs while the duty is off and executing the duty transition in every mission. It is certainty too much time consumption for officers in every mission, especially, while the emergency case occurred. It could make cases worse to the delay for the next duty execution; ii) hard to examine the hardcopy working logs, the conventional hardcopy working logs are not easily being checked and Verification as to the history events for the executed duties. Moreover, supervisors cannot validate the corresponding records for the correlated events; iii) difficult to preserve for the hardcopy working logs, the contents of the conventional hardcopy working logs are consisted with traditional paper and they are not easily to kept in good condition owing to the wet in the air. In convention, five years is the period of keeping for conventional hardcopy working logs. Furthermore, they are obviously too much space consumption for every agent. Focusing on the inconvenience and drawback of the traditional hardcopy working logs sheet used in officers, this work proposed an Intelligent Information Systems Technology based a Noble Design of Electronic Working Logs (EWL) and employed this dedicated tool to a real agent. There are some special features in this paper: i) Easily operational interface, users can simply and instantly inquire the on-line request of the EWL; ii) Instantaneously monitor the situation, supervisors can cleanly scrutinize
the events; iii) Forever preservation, agent can conserve the electronic working logs forever due to the EWL. This work also implemented the proposed EWL in a real officer agent and obtains some successful results.

Following of this work is organized in this manner. Section 2 presents the Literature Reviews for the conventional hardcopy working logs for duty. An Intelligent Information Systems Technology based a Noble Design of Electronic Working Logs (EWL) is proposed in Section 3. Section 4 implements the dedicated EWL in a real Agent. Finally, this paper makes a brief conclusion in Section 5.

2 LITERATURES REVIEW

2.1 Situation of the Electronic Sheet in Agent

The applications of Intelligent Information Systems and Electronic-commerce Technologies used in agent were raised from 1997. Up to now, few and/or not too many attempted to conduct these technologies to many agents. However, there are very few applications corresponding to the Electronic Working Logs for officers. There are four stages of the project of Electronic/Network promotion in Agent from 1997 stated below:

**Stage 1.** The mid-term project of the Electronic/Network promotion in Agent was executed from 1998 to 2000.

**Stage 2.** The project of the Electronic Promotion in agent is executed from 2001 to 2004 and the E-agent Project was executed from 2003 to 2007. Subsequently, the challenged Project and Digital Project in agent were executed from 2008.

**Stage 3.** The Project of high quality Network Processing was executed from 2008 to 2111.

**Stage 4.** The intelligent improvment Project in Agent was executed from 2011 to 2016.

2.2 The Prototype Exploration and On-Line Simulation of the Electronic Working Logs for duty

**Innovation of the Electronic Working Logs**

Owing to the following reasons, the Electronic Working Logs for duty was created; i) too much time and space consumption for agent and duty.; ii) hard to examine the hardcopy working logs for supervisors and/or officers; iii) difficult to preserve for the traditional paper hardcopy working logs.

In addition, it is a trend for Agent to been Electronic/Network for Duty in this age.

**Prototype of the System Development and On-Line Test.**

First of all, the prototype dedicated design of this Electronic Working Logs for duty is only executed in only one unit in a single agent to simulate the efficiency of this design. Furthermore, the following four steps tests are executed to justify and/or rectify the procedure of this EWL.

**Step 1.** System Analysis and Program Construction- Focusing on the inconvenience of the traditional paper hardcopy working logs sheet used in officers, this work rectify this drawback owing to the experience.

**Step 2.** System Test- Only one unit in a single agent of the Department of
Information Management Office executes the system test and Hardware and Software combination.

Step 3. Training for the users as to the officers in agent- One agent of the Department of Information Management Office executes the training.

Step 4. Spread this proposed Electronic Working Logs for duty to other units in this agent- Invite other units join this project.

Subsequently, the On-Line tests associated with other units in this agent are executed and spread this technology to all units in this simulated agent.

3 A NOBLE DESIGN OF ELECTRONIC WORKING LOGS

3.1 Prologue of the Web of the Electronic Working Logs for duty in Agent

The Web of the EWL- The details description corresponding to the Electronic Working Logs for duty was shown in the panel of the EWL. First of all, users should submit the personal identify of the username and password with the authorization passwords to get in the system.

Information Management Catalog

Introduction- There are several icons shown in the EWL with different colors to make a difference, such as “Date”, “Time” “Duty item”, “Action signal of Y/N”, “Officer name”, “Status of T/C”, “Edition”, “Officer signature”, “People signature”, “Acknowledge”, “Delete”, “Legal case description” and “Verification” will be responded immediately. Users can easily check and confirm those messages shown in the web through the EWL panel. In addition, those different colors will discriminate the different status of the processing Legal events.

“Date”- officer should fill in the currently data exactly.
“Time”- officer should fill in the currently time exactly
“Duty item”- officer should fill in the duty items, such as the Traffic affair or others.
“Action signal of Y/N”- officer should fill in whether other Legal Affairs are existed and being proceeded.
“Officer name”- officers should fill in officer’s name.
“Status of T/C”- officers should fill in the status of Temperately Record or Completely this event.
“Edition”- officers can modify the message of the execution legal event before “Output”.
“Officer Signature”- officers should sign the officer’s name to identify.
“People signature”- officers should acknowledge the people who involve the legal event to make a signature.
“Acknowledge”- officers should acknowledge the output command of this legal event to the Supervisor for Verification.
“Delete”- officers can delete this legal event with certainly reason descriptions and others.
“Legal case description”- officers should describe the details or make a brief description of the execution task. “Verification”- officers should verify this event to output.

**Operation Description-Adding a new working log for duty**

Pressing the Panel command of “Adding a new working log for duty” to execute the Adding. The following steps should be completed.

i) Officers should fill in the exactly currently date and time. In addition, those data were beginning as the legal event occurred.

ii) Once other officers join this event, others should also fill in the corresponding names and ID number through the EWL panel. Finally, push the button of “Adding”.

Moreover, officers won’t join this task due to urgent cases occurred beyond the officer controls. The officer can just push the button of “Delete”.

iii) Other Legal Events item was employed to handle the corresponding legal events. The icon as to the “Y” represents the fact that there are existed other events should be handled. Officers should type the exactly the numbers of people and the details of the event. Otherwise, the icon presents “N”.

iv) The process of the working logs is stated below. Users can also employ the corresponding phase words built-in the EWL memory for edition. Also, users can type words directly through the EWL panel.

Finally, “**Adding a new working log for duty**” is completely executed. Users can also make some other “Adding”, “Delete” or make a modification of the previous job. However, the proposed EWL will respond the executed results through the screen of the panel, such as the corresponding message of “Adding Success” or “Delete Success”, “Verification Success”, “Output Success” … etc. Once this action is not completed owing to some other typing errors or data losses, EWL will request the users to make a modification of the precious stage. It should be noticed that every action need be verified by the officers “Signature” as well as the People “Signature” before this Legal event was transferred to the Supervisor for Verification.

**Operation Description- Edition, Delete, Officers and People Signature, Output, Verification**

The panel of EWL will present the corresponding phase of icons with different colors of “Date”, “Time”, “Items”, “Other Events”, “Edition”, “Delete”, “Temperately Records”, “Officers and People Signature”, “Output” and “Verification” guild users to operate.

Once this action is not completed owing to some other reasons of typing errors or data losses, EWL will request the users to make a modification of precious stage. It should be noticed that every action need be verified by the officers “Signature” before outputting this Legal event to the Supervisor for “Verification”. Details are stated below.

“**Temperately Record**”- Users can execute the “Edition”, “Signature” and “Delete”. However, once this legal event was executed completely though the “Output Command”. Users cannot make any other modification of this case. Once there existed some other reasons of typing errors or data losses, EWL will request the users to make a modification of this precious stage.

“**Verification**”- the supervisor with the authorization executed the Verification Command.

“**Colors Discrimination**”- Different Colors type of icons discriminated the different items job of EWL.

“**Output Command**”- officers can print it out of this handled Legal event through the printer and output this job to Supervisor for “Verification”. However, every handled cased should be
notified by Officer and People’s Signature for recognition.

4 IMPLEMENTATION

4.1 A Real Agent is selected to simulate the practical operation of Electronic Working Logs for duty

There are three stages to promote this Electronic Working Logs for duty.

Stage 1. First of all, 20 sets of facility as to these signature panels and the corresponding devices are gained to execute the Electronic/Network EWL. There are seven units in this agent to execute this Electronic Working Logs for duty.

Stage 2. There are 222 sets of facility as to the signature panels and the corresponding devices are gained to carry out the Electronic/Network EWL for duty. There increase nine units more with respect to the previous Stage of seven units in this agent to execute this Electronic Working Logs for duty.

Stage 3. There are 300 sets of facility as to the signature panels and the corresponding devices are gained to execute the Electronic/Network EWL for duty. All units in this Agent are invited to join this Project to execute this Electronic Working Logs for duty.

4.2 Performance Evaluation of the proposed Electronic Working Logs for duty

The performance of this designed Electronic Working Logs for duty is stated below.

- **Economy efficiency**, the tradition working logs cost more than this dedicated design of Electronic Working Logs for duty.
- **Forever preservation**, agent can conserve the electronic working logs forever due to the EWL.
- **Justification**, officers can clearly and promptly investigate and/or check every past case of the corresponding message through the dedicated design of Electronic Working Logs for duty.

5 CONCLUSIONS

Focusing on the inconvenience of the traditional hardcopy working logs sheets used in officers, this paper proposed an Intelligent Information Systems Technology based a Noble Design of Electronic Working Logs (EWL) for duty. Furthermore, this paper also employed this dedicated tool to a real agent. There are some special features in this paper: i) Easily operational interface, users can simply and instantly inquire the on-line request of the EWL; ii) Instantaneously monitor the situation, supervisors can clearly scrutinize the events; iii) Forever preservation, agent can conserve the electronic working logs forever due to the EWL. This paper also implemented the proposed EWL in a real officer agent and obtains the following successful results: E-performance, Electronic/network EWL, Time and space saving, Economy efficiency, forever preservation, and Justification obtained for the implemented agent.

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REFERENCES


