Iowa model

The Iowa Model was developed to predict time and accuracy means and standard devia.

The following mental tasks: How subs tions for the following mental tasks: • COMPARE: "Is this part the same as that one?" LOCATE: "Find the location of the requested item." errc VERIFY: "Determine if minimum specified features exist." foll a 51

• IDENTIFY: "Name the object in location X."

 CLASSIFY: "Find the frequency of some feature." ARITHMETIC: "Perform specified arithmetic operations."

A series of studies were performed during this effort. One question that was closely a series of studies were performed during this effort. One question that was closely a series of studies were performed during this effort. One question that was closely a series of studies were performed during this effort. One question that was closely a series of studies were performed during this effort. One question that was closely a series of studies were performed during this effort. A series of studies were performed during the studies was whether performance times and errors in any addressed in the laboratory studies was whether person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of any addressed types of tasks performed by a person changed because of the person changed by the pe addressed in the laboratory studies was with a person changed because of any of the different types of tasks performed by a person changed because of any of the following:

The effect of combining tasks

The effect of performing particular task sequences

The effect of pacing

The results have interesting implications to practitioners interested in synthetic time The results have interesting in the prediction using systems such as Mento Factor. The overall results are quite promising prediction using systems and prediction. Less promising results were all the promising predictions and prediction. for synthetic time estimation and prediction. Less promising results were obtained for

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performance time values were found to be nearly normally distributed or logarithmicperformance time statistics changed in a pearly it performance time value ambiguous results were obtained for the accuracy criterion.

The performance time statistics changed in a nearly linear fashion as a function.

The results were more ambiguous with performance time statistics changed in a nearly linear fashion as a function of sev-performance time results were more ambiguous with regard to task assume times are the results were more ambiguous with regard to task assume times and the results were more ambiguous with regard to task assume times and the results are the results were more ambiguous with regard to task assume times and the results were the results were more ambiguous with regard to task assume times and the results were the results were more ambiguous with regard to task assume times and the results were the r performance time such were more ambiguous with regard to task accuracy. Speed variables. The results were more arithmetic tasks involving fewer digits. It took long accuracy to the accuracy criterion. and value of the property both improved the tasks involving fewer digits. It took longer to the property of the tasks required search of a larger set of symbols. multiplication the tasks required search of a larger set of symbols.

dopped who were faster on one type of information-seal of the other information-seal of the other information and the other inform

popped who were faster on one type of information-seeking task tended to be faster people who were formation-seeking tasks. No trend of the people who were instead to be faster people who were instead to be faster and more consistent on the other information-seeking tasks. No trend of this type was and more accuracy measures.

found for accuracy measures. nd for accuracy measurement these information-seeking tasks while simultaneously per-people were able to perform these information-seeking tasks while simultaneously perpeople were able to produce the people were able to produce th forming other tasks, increased significant tasks of manual tasks. Performance forming other information-seeking tasks did not change, but control errors increased significant tasks of manual tasks. Performance information the information of the information and in a distinctly different manner depending on the type of information. formula of the information of th

ks performed.

ks performance times and errors were not influenced by increased uncertainty as to performance next in the task sequence. lasks performed. Which task would come next in the task sequence.

ich task would een make responses to different types of tasks on different response when people had to make responses to different types of tasks on different response when people times were increased by an almost constant When people the were increased by an almost constant amount of time.

When people the were increased by an almost constant amount of time.

When people the were increased by an almost constant amount of time.

rices, performance initiated in response to auditory signals were faster by a nearly con-Tasks that were initiated in response to auditory signals were faster by a nearly con-Jasks trial to tasks triggered by visual signals.

nt value compared to the change substantially between different forms of Time and error statistics did not change substantially between different forms of

The task sequence normally had a minor impact on performance time or accuracy. The task sequence of the performance time or accuracy.

However, if a second task used information generated by the first task, task times dropped substantially, but the number of errors also increased.

The latter finding is especially relevant. Most human reliability models assume that errors on successive subtasks are statistically independent (Swain and Guttman, 1983). It follows that if errors are a major concern, it is better not to modularize tasks when there is asingle response to component tasks.