

LIVE TILES IN MAINFRAME

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ABSTRACT

This paper proposes the usage of Live Tiles Usability Experience in Mainframes. The UI experience was brought into the mainframe CICS maps. The map related parameters and attributes are used for achieving the live tiles display and enhancing the user experience. The dynamic tiles UI is provided with location based interfacing on the CICS map. The concept of Temporary storage Queue (TSQ) is implemented in order to display the information and the concept of cursor positioning is also used to make the application user friendly. This paper also addresses how Live Tiles will improve the user interface in Mainframes. Live tile is implemented using COBOL, DB2, CICS in mainframe.

KEYWORDS

Live Tiles, Mainframes, Cursor positioning, CICS, TSQ.

1. INTRODUCTION

Mainframes is the oldest technology, which has been used mainly for high security based applications [1]. When we think of mainframes, the first thing that comes to our mind is the monotonous black screen and the not so user-friendly interface [2] so, over the years mainframes was seen as a back end application.

Since there isn't any attractive interface like Windows in Mainframes, implementing a concept like Live Tiles [3] could be alien to many of us. Live Tiles, which became famous through Windows, are the colourful blocks which help us in launching applications. So they are called as the shortcuts to the applications and we can click on them to open any particular application. The tiles are so much more than simple icons. They give us an at-a-glance view of a range of useful information, weather and news headlines are the few which come to our mind.

Live Tiles provides a dynamic compressed view of the information. The colour and presentation of tiles provides a user view of data in a different level. Different types of information are presented in a more user experience methodology providing a faster access to the important data for the user. The live tiles in mainframes define a new UX design in CICS maps which takes the mainframe maps to a different usability model. The important content for the user is personalized and brought on to the CICS mainframe screen with a dynamic information capability [4]. Live tiles uses CICS concepts such as cursor positioning, and pseudo conversational programming [6] [7]. Detailed information of the data shown on the tile will be displayed with the help of Temporary Storage Queue (TSQ) [5].

2. IMPLEMENTATION

Customer Information Control System (CICS) is the user interface used and in order to display data TSQ [4] is used. Temporary storage is the primary CICS facility for storing data that must be available to multiple transactions. Data items in temporary storage are kept in temporary storage queues. Temporary Storage Queue is a feature that is provided by the Temporary Storage Control Program (TSP). A TSQ [5] is a queue of records that can be created, read and deleted by different tasks or programs in the same CICS region. The items can be retrieved by the originating task, or by any other task, by using the symbolic name assigned to the temporary storage queue.

A temporary storage queue containing multiple items can be thought of as a small data set. Specific items (logical records) in a queue are referred to by relative position numbers.

The records in TSQ remains accessible until the entire TSQ is explicitly deleted. The records in TSQ can be read sequentially or directly.

Next comes the cursor positioning [6], by clicking on the tile, the corresponding application should be opened. EIBCPOSN is used to achieve the same.

Range = (No of rows - 1) * 80 + (no of columns - 1)

The above equation [7] is used to calculate the range for which the cursor positioning should work, thereby connecting the tile to its respective application. Combining the entire mainframe CICS, map and cursor positioning, live tiles is implemented with a drill down approach. Each tile has different data with dynamic content management.

3. RESULTS

On a daily basis, a TO-DO list along with a CALENDER and the LATEST NEWS update are the things we want to have a track of. We have implemented these features on Mainframes as LIVE TILES. (Figure 1)

The back ground process is listed as follows

- Check the date and time condition.
- Use a Cursor to fetch data from DB2.
- Use TSQ to store the data.
- Display the required information on the tiles.
- Cursor positioning

Highlighted dates in the Calendar (figure 1) tells that certain events are scheduled on those dates. By clicking on that date, the entire day's schedule can be viewed. The current date in "RED" has its latest three scheduled events displayed on the TO-DO(What's Next) tile (figure 2).

In the NEWS update tile, the latest three news based on the login time can be viewed. By clicking anywhere on the tile the entire news headlines of that day are displayed. (Figure 3)

Following is the statistical results of using the live tiles.

1. Time taken to access the relevant data on the CICS map before and after live tiles. (Chart 1)

- Average amount of information (maps) processed for getting the same information before and after using live tiles. (Chart 2)

Here we tried accessing the TO-DO list map before implementing the live tiles which needed a transition through 4 maps to reach the relevant data but after the live tiles implementation the information was made available on the first map.

Chart 1

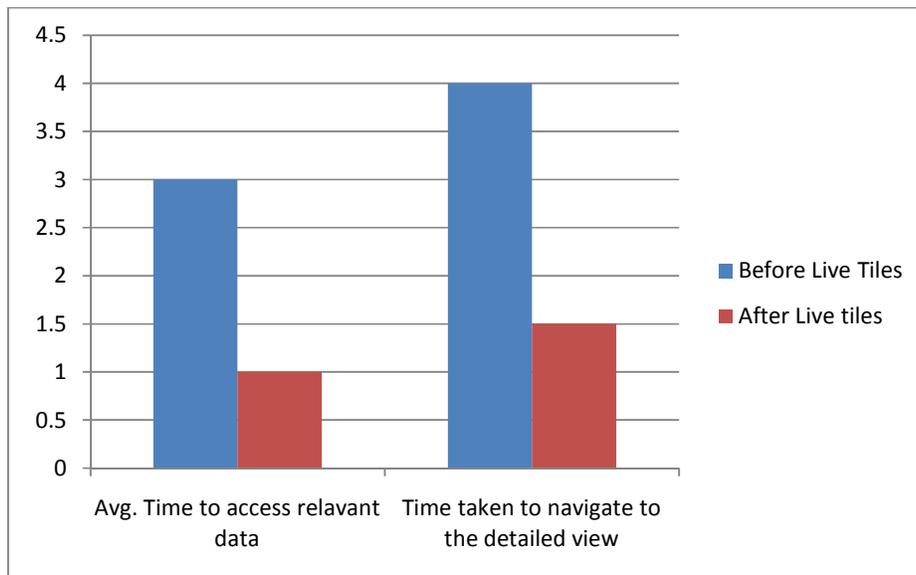
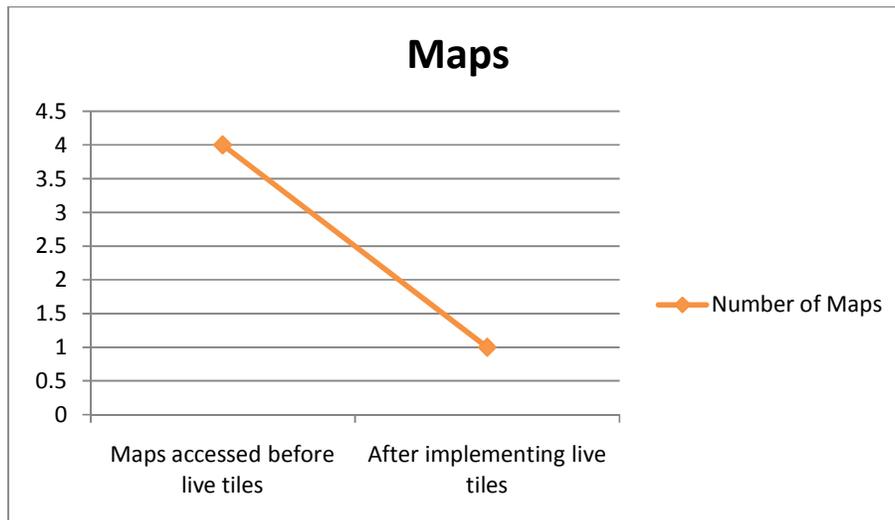


Chart 2



Thus the results show that the implementation of live tiles improved the efficiency of the UI in mainframes and provides the relevant information much earlier to the user.

3. CONCLUSION

Tiles are nothing but a small piece of colourful rectangular blocks, which can be incorporated in mainframes as seen above, with live updates on it. Live Tiles in mainframes will help in improving the user interface as updated information can be directly viewed from the start screen/Home screen in a colourful way. This provides mainframe a different user experience with faster access to the relevant information.

Figures

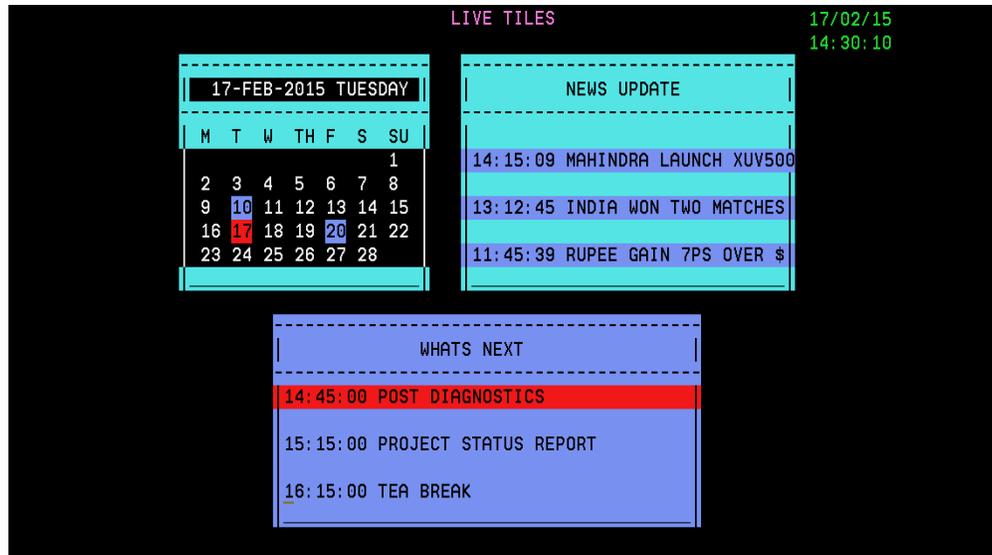


Figure 1: Live tiles home page

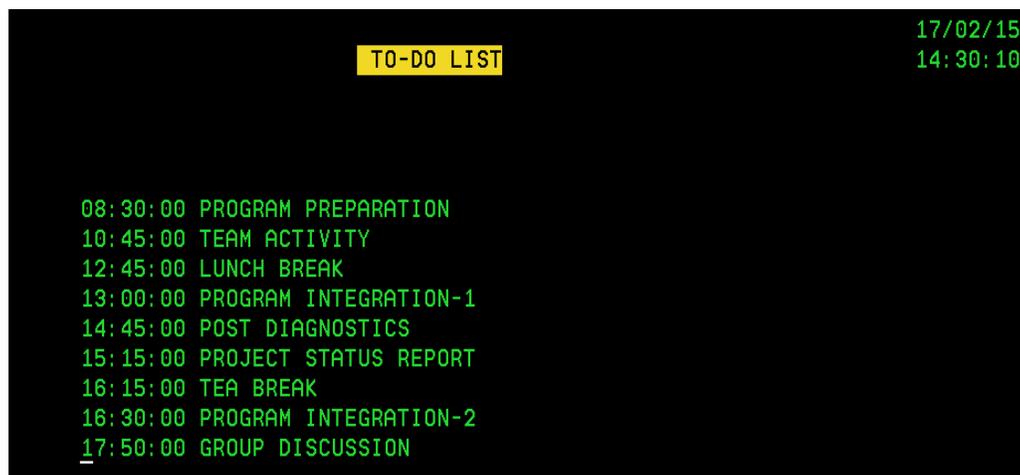


Figure 2: TO-DO List Screen

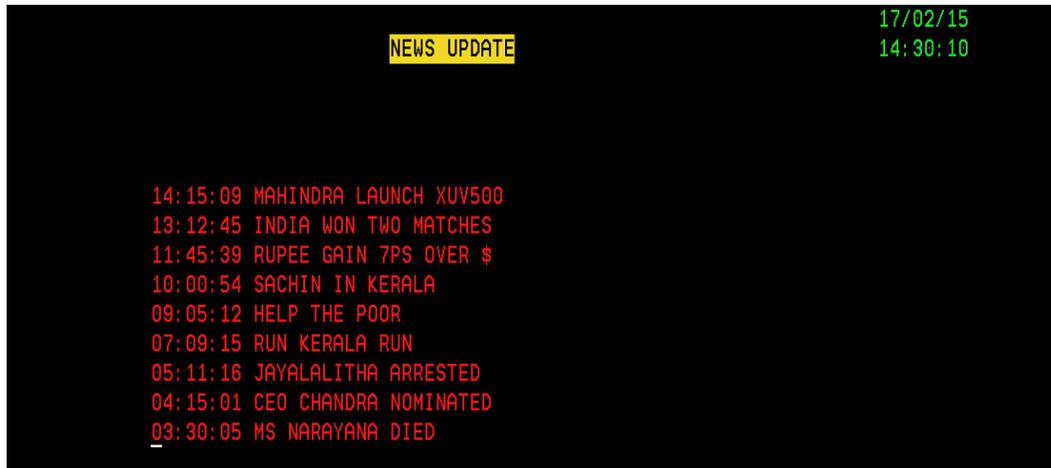


Figure 3: News update screen

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