Category-based Resource Match Visualization

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ABSTRACT

This disclosure describes visualization techniques for monitoring of resource availability and pending work items (resource needs) across categories in an enterprise environment such as a customer support center. Per techniques of this disclosure, a user can visualize pending work items and available agent resources by drilling down to a desired level of specificity based on categories of the work items and agent resources. A dashboard is provided that includes a display of pending work items, agent availability, and selectable buttons that enable a user to view data at different levels of granularity. The user can select buttons associated with subcategories within a group to obtain details of work items and agents corresponding to the selected buttons. Selection of all available buttons enables the user to view information across all categories that are available and at a highest level of detail.

KEYWORDS

- Contact center
- Call center
- Skill-based routing
- Queue-based routing
- Data visualization
- Support agent
BACKGROUND

Visualization of resource availability relative to resource needs can help organizations optimize workflow processes. For example, in a customer support center (call center), supervisors and managers commonly monitor volume of incoming calls and available support agents to reduce call handling time, improve customer satisfaction, maintain service level quality, etc.

Agents are often classified by their skills (abilities), e.g. language(s) spoken, sector of specialization, skill level (e.g., beginner, expert, etc.). Similarly, incoming calls (tasks) can also be classified based on the specific needs of each calling customer. Real-time computer systems are commonly utilized to assign incoming calls to suitable agents, based on agent availability and matching the caller requirements with agent capabilities.

Visualization of a volume of pending task items (calls) by categories and agent availability across different skills can enable managers and/or supervisors to monitor call traffic and handling, and take remedial actions as necessary.

DESCRIPTION

This disclosure describes visualization techniques for monitoring of resource availability and pending work items (resource needs) across categories in an enterprise environment such as a customer support center. Per techniques of this disclosure, a user can visualize pending work items and available agent resources by drilling down to a desired level of specificity based on categories of the work items and agent resources.
Fig. 1 depicts an example dashboard that can be utilized to view and monitor pending work item volume and agent availability at a top level (“ALL”), per techniques of this disclosure. The dashboard can be displayed on a computing device (110) such as a mobile device, desktop computer, laptop computer, etc.

The dashboard includes a real-time display of pending work items (120 - “500 items”), agent availability (130 - “200 agents”), as well as selectable buttons (140) that enable a user to view additional information via the dashboard at a greater level of granularity of detail. The example shown in Fig. 1 depicts data corresponding to all pending work items and available agents, across all categories and skill sets. A user can select one or more buttons that are associated with subcategories within a group to obtain details of work items and agents corresponding to the selected button(s), e.g., by language, section, or skill in the example of Fig. 1.
Fig. 2: Detailed visualization of resources and tasks based on sub categories

Fig. 2 depicts an example dashboard display of pending work items and available agents across categories, based on user selected buttons that are associated with specific categories. In addition to the display of a volume of work items and available agents across all categories.
(“ALL”), indented or otherwise highlighted bars are utilized to display a volume of work items and available agents associated with the categories associated with the user selected button(s).

For example, Fig. 2(a) depicts the dashboard when the button corresponding to language (“Lang”) is selected by a user. In this illustrative example, bars corresponding to values associated with all support languages (210), e.g. “English,” “Chinese,” and “Spanish” are displayed. Each of the bars includes a display of information about work items and available agents within each category. For example, a volume of callers requesting support in “English” as well as a number of available agents who support “English” is displayed.

More detailed information can be obtained by user selection of additional buttons that correspond to other categories. For example, Fig. 2(b) depicts a dashboard that includes additional information based on a “Section” category within a “Chinese” category. Based on a user selection of a “Section” category, additional indented bars (220) are displayed that include a volume of callers and available agents associated with “Chinese” language support, across different “Section” categories. Selection of all available buttons enables the user to view information across all categories that are available, and at a highest level of detail.

In some implementations, customized (e.g., user selected) buttons are provided to enable a user to quickly navigate to frequently viewed information. For example, each bar can be provided with a “favorite,” “most viewed,” and/or other buttons for ease of access.
Fig. 3 depicts additional example dashboards, per techniques of this disclosure. In an illustrative example, as depicted in Fig. 3(a), a dashboard may be configured to display information automatically at a deepest granular level (310). Display of information at a deepest granular level is analogous to a queue-based view of pending work items and available agents. In some implementations, information at the deepest granular level may be filtered to display only bars that correspond to non-zero values of work items or available agents. This approach can be beneficial to users that wish to view the most detailed available information across all categories, without viewing numbers consolidated across categories.
In some implementations, a hybrid dashboard can be utilized to display information at varying levels of granularity. Custom and/or predefined queues may be configured that enable users to easily visualize resource availability and needs based on specific user requirements. For example, Fig. 3(b) depicts a dashboard that includes a display of predefined queues (320). This approach enables users to visualize the information as a combination of traditional queue-based settings and skill-based settings. Predefined queues can utilize an interface similar to other interfaces described herein, without a need for tag buttons and indents.

CONCLUSION

This disclosure describes visualization techniques for monitoring of resource availability and pending work items (resource needs) across categories in an enterprise environment such as a customer support center. Per techniques of this disclosure, a user can visualize pending work items and available agent resources by drilling down to a desired level of specificity based on categories of the work items and agent resources. A dashboard is provided that includes a display of pending work items, agent availability, and selectable buttons that enable a user to view data at different levels of granularity. The user can select buttons associated with subcategories within a group to obtain details of work items and agents corresponding to the selected buttons. Selection of all available buttons enables the user to view information across all categories that are available and at a highest level of detail.