

New Scoring Workflow Feature

Team G1 has integrated the scoring process into the workflow architecture. This feature allows administrators to create workflows with a numerical “score” along with the previously implemented, “validate” and “approve or deny” functions. These steps can then be assigned to different users to be completed. The main benefit of this feature is its customization.

Administrators can create different scoring breakdowns depending on the specific format of the document (i.e Resume, Recommendation, etc.). It also allows workflows to include multiple scoring steps all in one workflow.

How to use this feature?

1. *Creating a workflow with scoring functionality*

To create a workflow, administrators can visit the edit page to add validation or approbation steps, as well as choose what action occurs after the document has been validated or approved. The image below shows the edit page for a workflow that will add a tag to the document once validated, which is a function that already existed in Teedy.

The screenshot shows the 'Edit "Validate resume"' interface. At the top, the 'Name' field contains 'Validate resume'. Below this, a table-like structure defines the workflow steps. The first step is numbered '1' and has a drag handle icon. It is configured with the following details:

Step type	Assigned to
<input checked="" type="checkbox"/> Validate	administrators

Below the step configuration, there is a text input field containing 'Check the document's metadata'. Underneath this, a section titled 'Validated' shows the action to be taken after validation: 'Add a tag'.

The functionality that we added was the “Scoring” step in a workflow, which can be selected in the dropdown menu under Step Type. This step type will allow reviewers to enter a numerical score when they are added to a workflow.

Edit "Scoring resume"

Name

↕ 1

What happens after?

Step type ⓘ

✓ Validate ▾

✎

Approved

Validate

Score

Assigned to

🗑

Validated

Add a tag ▾

+

The action below in “What happens after?” should automatically change to “Scored” with score in the dropdown menu, as shown below. After finishing the workflow, you can save it and reviewers should now be able to score in that specific workflow.

Edit "Scoring resume"

Name

↕ 1

What happens after?

Step type ⓘ

✎ Score ▾

✎

Check the document's metadata

Assigned to

🗑

Scored

Score ▾

+

2. How to Score a Document

When reviewing documents, a reviewer can add a score. To score a document, first click on the Documents tab in the top left corner. From this page, select the document to review and click the 'Workflow' tab:

The screenshot shows the document 'doc1' (dated 2022/10/06 by admin) with a 'Share' button. Below the document title is a tabbed interface with 'Content', 'Workflow' (selected), 'Permissions', and 'Activity'. The 'Workflow' tab contains the text 'Verify or validate your documents with people of your organization using workflows.' Below this is a section titled 'Which workflow to start?' with a dropdown menu and a link 'Add more workflows'. At the bottom of the 'Workflow' tab is a 'Start workflow' button.

Click the dropdown, select your workflow (ours is named 'Scoring resume'), and click 'Start workflow'. The screen should look like this:

The screenshot shows the document 'doc1' with tabs 'Content', 'Workflow' (selected), 'Permissions', and 'Activity'. The 'Workflow' tab shows 'Verify or validate your documents with people of your organization using workflows.' and a 'Cancel the current workflow' button. Below this, it says 'Scoring resume started on Oct 6, 2022'. A table shows the workflow details:

Type	Name	For	Validation
Score	Score resume	Group administrators	

On the right, there is a 'Current workflow step' section titled 'Score resume' with a 'Score' button, a text input field 'Enter text...' (with 'Group administrators' as a placeholder), and a 'Scored' button. At the bottom right is a 'Comments' section.

Enter the score in the text field on the right hand side and press 'Scored'. A popup confirmation should appear, and if you refresh the page, the score should show up below under the 'Validation' column like so:

Type	Name	For	Validation
Score	Score resume	Group administrators	Scored 3 minutes ago by admin 5

Further Improvements

While the current version feature significantly improves Teedy's functionality, there are still further improvements that can be made. The clearest next step is to allow administrators to give scores a maximum limit or a range. This will allow users to grade documents on a scale of 10, 100, etc. Displaying the scores along with the maximum limit will give users much needed context to the displayed numerical values.

Additional functionality could be added so that users can view the total score of a document along with its maximum possible score. Color can also be used as an indication of a document's score in the workflow table by highlighting red if it's below average and green when it is above average.

Testing

Automated Testing

We utilized automated testing through Github actions to ensure our database and middleware were functioning smoothly. In `TestDocumentResource.java`, we wrote unit tests and integration tests that saved the score fields correctly and properly retrieved the values from the Document database table. In `TestRouteModelResource.java`, we wrote integration tests that created a Score step and action in the workflow. These tests mainly checked our new `ScoreAction` class and `SCORE` transition type. Overall, these tests show that a score can be added as a step and an action in the workflow, and that the score is properly saved to the database and is properly displayed.

The code on the main branch of Teedy has a bug with `EmailUtil`. As a result, the automated tests which use `EmailUtil` that already existed in main were failing. Additionally, a video parsing test unrelated to workflows also fails. We decided to comment out these references in our test files.

User Tests

For User Tests, we created a new document in Teedy, then sat down with CMU students who are not taking 17-313 and have had some prior exposure to Teedy. We explained the basics of the system and walked them through some of the different pages. Then, we asked them to first create a new workflow with a Score step, and then score the new document we created. Most of the users were able to find the workflow step and add the score step relatively quickly. Some were a little bit confused by the action box, but that was part of the pre-existing workflow. All of our testers had no issues with adding a score by the end.