Student Multi-Tool:
User Manual

Team Marvel

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Archiving

Archiving essentially involves 4 steps:

1. The generation and storing of logs in the database
2. The storing of old logs in files
3. The compression of log files
4. The deletion of old logs in the database

On the first (1st) of each month at 00:00:00 AM UTC, logs in the database are offloaded to archive files stored at C:\inetpub\smt-storage\Archives, and then they are deleted from the database. Logs only become archived if:

1. They are currently in the database
2. They are older than 30 days

Once logs are archived, the files are compressed to conserve storage space.

Authentication

To log into the system, run the app and select login. Enter your username and passcode. If entered correctly, the user will receive an email with a one time password. Use the one time password along with your username to then log into the system. Users will only have five chances to enter their username and one time password correctly within a 24 hour period, or else their account will be disabled and an account recovery action will have to be performed.

Logging out of the system can be done one of two ways. The first is by manually clicking the logout button. The second is by closing the browser.

Logging

Logs are stored in a database. They are stored and retrieved using a special database user who is the only user granted permission to do so. There is no method native to the system to change a log once it is generated. Each log contains 5 pieces of data:

1. A user associated with the log
2. The time and date at which the log was generated (in UTC)
3. A description of the event that the log represents
4. The software layer in which the log was generated:
    a. UI
    b. Security
    c. Business
    d. Error
    e. Data Access
5. A categorization of the log:
    a. Debug (information about system status)
    b. Error (information about errors)
    c. Info (information about normal user/system events)
    d. Warning (information that may cause system failures)

Once a month, logs are offloaded from the database to be archived. See Archiving for more information.

Matching

To utilize matching, a user must be logged into the system. To begin matching, first create either a tutoring or activity profile and select save. To generate matches, select generate activity matches or generate tutoring matches. You can go back and change your criteria as many times as needed. Selecting generate activity matches will generate and display your matches based on your last saved activity profile. Selecting generate tutoring matches will generate and display matches based on your last saved tutoring profile. If you want to see all your past matches, select display all matches.

Note that there is a limit to only being able to select up to five activities at once, and a limit to only six courses can be entered in for tutoring profiles at once.

Schedule Builder

To build a schedule, follow these steps:

1. Create an account.
2. Use the schedule builder to create a schedule.
3. Go to the schedule builder selection page.
4. In the form at the top of the page, type the name of a schedule.
5. Click “create”.
6. When the schedule you created appears, click the “edit” button.
7. For each item in your schedule, do the following:
    a. Add a title.
    b. Optionally, you can add other information, such as a person to contact about the item, a location, and notes about the item.
    c. Select at least one day of the week on which the item occurs.
    d. Select a start and end time. The end time must be after the start time.
    e. Click “create”.
8. Click “save” to save your schedule.

Schedule Comparisons

To compare schedules with someone, follow these steps:

1. Create an account.
2. Use the schedule builder to create a schedule.
3. Go to the schedule builder selection page.
4. Find the schedule you wish to compare, and click the “collaborators” button.
5. Enter your friend’s username at the top of the page. Click “Add” to add them as a collaborator on the schedule.
6. Tell your friend to repeat steps 3-5 for you. Repeat steps 3-5 for each additional schedule you wish to compare.
7. Finally, navigate to the home page, select “Schedule Comparison”, and choose the schedules you wish to compare.

Two to five schedules can be compared at a time.

User Management

1. Bulk operations via file upload
    a. A simple command interpreter is used to execute arbitrary CRUD (“CReate, Update, Delete”) operations on users. The interpreter is designed to be simple enough that anyone can write these operations, and that they can be generated automatically using third-party scripts or programs.
    b. Creating the file
        i. Write your operations in a text file (“.txt”). Files of other extensions will be ignored.
        ii. At most, 10,000 operations will be performed.
        iii. A file size limit of 2 GB is in place. This should be enough for most files.
        iv. Any lines that are empty or do not begin with “create”, “update”, “delete”, “enable”, or “disable” will be ignored.
    c. Basic syntax
        i. Each operation consists of a verb and a username. The verb determines which type of operation will be performed. The Username determines who the operation will be performed on.
    d. Errors
        i. Before executing each operation, the database is queried for the username. If the user does not exist in the database, and the verb is update, delete, enable, or disable, then the operation will be skipped.
        ii. If the user does exist in the database, then the create operation will be skipped.
        iii. This means that care must be taken when creating the file to write commands in the correct order, if multiple operations are performed on the same user. The user should be created before performing any other operation. Any operation after the user is deleted will be skipped.
        iv. It is safe to perform duplicate operations on the same user.
        v. Username, email, role, passcode, name, and school fields should not contain spaces.
    e. Create
        i. To create a user, the basic syntax is:
        `create $username $email $role $passcode $name $school $active`

ii. Examples:
`create exampleUser exampleUser@student.csulb.edu admin password2 example CSULB false`

`create truncatedUser trunc8ed@student.csulb.edu student pass3`

iii. All fields must be entered in the order presented to correctly create the user.

iv. You can create a user without all fields, but it is strongly recommended to include username, email, role, and passcode. Otherwise, the created user may not be able to log in.

v. All fields are strings, except for the last field (`$active`), which must be `true` or `false`.

vi. Emails should abide by standard email structure.

vii. No quotations or special characters are required. The passcode should be provided in plaintext so that the server can hash it before creating the user.

f. Update

i. To update a user, the basic syntax is:
`create $currentUsername $newUsername $email $role $passcode $name $school`

ii. Examples:
`update truncatedUser - - - - trunky`
This example updates the user "truncatedUser" with a new name: "trunky". The four hyphens ("-") represent fields that should retain their current values.

`update exampleUser xsample`
This example updates the user "exampleUser" with a new username: "xsample". Every value after the new username is ignored and retains its current value.

iii. To update all of a user's fields, simply type them all out.

iv. To preserve some of a user's fields, simply fill that field with a hyphen ("-"). That field will be ignored.

v. A user cannot be enabled or disabled using `update`. After using update, they will still be enabled or disabled, depending on what value was stored. See `enable` and `disable` to enable or disable users.

g. Enable

i. To enable a user, the basic syntax is:
`enable $username`
ii. Examples:
`enable exampleUser`
iii. Enabling a user will allow them to log in to the system.

h. Disable
i. To disable a user, the basic syntax is:
`disable $username`
ii. Examples:
`disable exampleUser`
This example does three things:
1. Checks if exampleUser has the role “admin”
2. Counts the number of admins in the system
3. Disables exampleUser if one of the following conditions are met:
a. exampleUser is not an admin
b. exampleUser is an admin, but there would still be at least one admin left after disabling exampleUser
iii. Disabling a user will prevent them from logging in to the system. Use this as an alternative to deletion when there is a possibility you will want the user to get back into their account.

i. Delete
i. To delete a user, the basic syntax is:
`delete $username`
ii. Examples:
`delete deleteableUser`
This example does three things:
1. Checks if deleteableUser has the role “admin”
2. Counts the number of admins in the system
3. Deletes deleteableUser if one of the following conditions are met:
a. deleteableUser is not an admin
b. deleteableUser is an admin, but there would still be at least one admin left after deletion
iii. Deletion through this method is permanent.

2. Singular operations
a. Restoring users to original values

i. Once a user has been updated using this page, the update cannot be rolled back. To restore a user's information to old values, you must manually preserve the original values for each user yourself.
ii. Using this page, you can always manually change a user back to an old value, unless that value is already taken in the database- such as a username or email address, both of which must be unique.

b. Creating a user
    i. Simply fill out the form and click the "create" button.
c. Updating a user
    i. You can update any fields except for the user's password. Type or select the new value and click "Update" and the user will be updated.
d. Enabling a user
    i. Make sure the check box in the "Active" column is checked. Click "Update".
e. Disabling a user
    i. Make sure the check box in the "Active" column is NOT checked. Click "Update".
f. Deleting a user
    i. Find the user that you wish to delete. Click "Delete". You will be asked to confirm your decision before deletion. Click "Yes" or "Okay" to delete.

Account Recovery

To recover an account from two different scenarios: - one, you must have forgotten the password, and the second possibility is that your account will be disabled after attempting 5 wrong attempts during login time. To recover on an active account will be easier. You just need to click **Forgot Password?** on the Login Page where you will need to verify your account by entering your username and email address. Once you click the reset, it will take you back to the login page, but at the same time, you get an email containing a link that will give you opportunities to reset your password where you will be able to enter a new password using your email. After submitting, you will be able to log in with a new password. Second, the disabled account user will be navigated to a page where it displays a message that your account is disabled enter your email and username and then submit to enable your account. After submitting, you will get an email containing a link that will direct you to a page where you will be able select options to activate your account again. As soon as, the user will select, activate and submit the information. The account will be activated again, and you will be able to login back. The trick part is you will have only 24 hours to respond to each email sent by StudentMultiTool. Remember, if you want to activate back select Activate options, you should not select deactivate.

Recipe Sharing

After Login into StudentMultiTool, you will see options for recipes. When you click on the recipe button, it will give you an opportunity to see all the recipe pages created by your fellow students. You can also Add the new recipe if you like so your friends, classmates and any other student who has access to the student multi-tool will be able to see your new post too. After adding a recipe, you forgot to write the main important thing. Don't worry, you will have access to edit your own recipe. You can also delete and start again the whole recipe. It is up to you. You can just read all the recipes by clicking on each recipe card. You will be able to see your own recipe after adding it to the student multi-tool. Recipe sharing is all about sharing your best healthy food recipe with your fellow users.

Student Discounts

To utilize Student Discounts, a user must be logged into the system. To begin posting student discounts, first the user must select the type of discount and fill out the information about the discount. For establishment discounts, the required fields are: discount title, establishment name, address and discount description. For website discounts, the required fields are: discount title, website, and discount description. On the other hand, the user can opt to search for discounts already posted and saved in the database. To begin searching for discounts, first the user must select the type of discount to search. After selecting the type of discount to search, a list of discounts will be displayed. In order to display the details of a particular discount, the user must select a discount from the list. After selecting a discount, all information related to the discount will be displayed.

Career Opportunities

To utilize Career Opportunities, a user must be logged into the system. To begin searching for career opportunities, first the user must fill out his own academic and employment information if any. The required fields are: student status, completed units, student's major, and certifications, internships, or research programs obtained. All this user's information will not be saved in our database, but it will be sent to USAJobs API to retrieve and match all possible career opportunities where the user can apply. Once the user clicks on the search button, all career opportunities that match with the user's information will be displayed in a list. The user can select a career opportunity from the list to see the details of that particular career opportunity. In the details of the career opportunity, it will include a link where the user can be redirected to the website to apply for a position.

GPA/Grade Calculator

To utilize the GPA Calculator, a user must be logged into the system. Once in, a user can calculate their GPA for a given semester. A user will select their grade from a dropdown menu (if your school uses a plus/minus grading scale, then you can select from those options, if your school does not, simply select the base grade (ie no plus/minus)) and enter in the number of units each class was worth. Note that the standard is 5 classes for a semester, but a user can add or remove a row if need be.

To utilize the Grade Calculator, a user must be logged into the system. Once in, a user can calculate their grade for a given class. A user needs to select the number of assignments for a class, press enter then the number of assignment boxes will appear according to that number. A user will then enter in how many points they received and how many total points that assignment was out of for each assignment. Once done, they can calculate their grade and it will be displayed on the screen. If a user wishes to save their grade to be used to generate a class ranking list (no names will be displayed on this list, it is all anonymous) they may do so. If saving a grade, a user must enter in a course name and a section number.

To see and generate class rankings, a user will go to generate rankings and enter in the course name and section number. If other users have opted to save their grade as well for the same class and section, a list, from highest to lowest grades, will be displayed. If there are no saved grades, then no list will appear.

Note that it is not a requirement to save your grade at any point when using GPA/grade calculator and so there is no guarantee that a particular class may have a class ranking.

Usage Analysis Dashboard

To utilize the usage analysis dashboard, a user must have an authenticated session (i.e. the user must be an admin with our system). Once authenticated, a user will be able to generate graphs of information from our system. A user simply needs to select on which graph they wish to view to see the data. The six options are the most visited pages, the average duration on a page, the school with the most logins, the number of logins over the span of the last three months, the number of matches over the span of the last three months, and the number of registrations over the span of the last three months. The first three are displayed in a bar graph, whereas the later three are displayed in a trend chart.

Authorization

Authorization job to keep track of each user's passing token based authorization where we can keep our web application more secure. The token will keep track of whether the right users are using our services or not. It also can be used to private using single page access such as account recovery systems. It privates the user to access all the pages where if the user tries to access the page without authentication. Authorization is a bounty border where once a user is on the other side of the border they need to login first to access this side of the border.