Dwebble User Guide

Group 12

Spring, 2020

Team Members

Elias Julian Marko Garcia
Ibrahim AbuAnz

Contents

1 Introduction

dwebble is a Rust based application that uses the [Rocket](#) web framework that assists the UMKC CSEE department in automating the scheduling of professors and courses they teach for a given semester given the constraints on professorial staffs' schedules, conflicts between sequencing and order that classes should be taught, and other minutia involved with class scheduling.

While the dwebble application is simple and straightforward in design, this document serves as a guide for how to navigate and use the dwebble class scheduler as both an admin and instructor user.

2 System Requirements

There are only two user requirements.

The first is a recent internet browser (Safari, Firefox, Chrome, etc.) and network access to the application address, whether via internet or within the deployed network. Refer to IT administrators and the system guide for more information on how to get access to the application over your network.

The second is that the user is allowed to register and login with the application. By default, the application does *not* restrict registration eligibility; however, if this is restricted in the future, the end user would need to have their university email cleared for registration in order to use the application.

3 Main Scenarios of Use

3.1 Account Registration

1. Go to the domain serving the dwebble application
2. You will find the landing page specifying you are not logged in

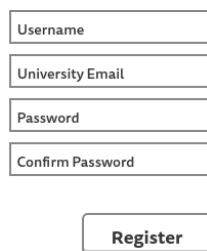| Dwebble	Register	Login

Dwebble Class Scheduler

Dwebble is a class scheduler used by the University of Missouri-Kansas City's School of Computing and Engineering (SCE). Before continuing, ask the administrative office for account permission in order to register and login with Dwebble.

3. Click on "Register"

4. You will find the registration page

Dwebble	Register	Login

Register

Username

University Email

Password

Confirm Password

Register

5. Enter your desired username, your university assigned email address, and a strong and secure password.

6. Click the "Register" button below the form

7. After administrators confirm your account creation, you are now registered.

3.2 Account Login

1. Go to the domain serving the dwebble application

2. You will find the landing page specifying you are not logged in

Dwebble	Register	Login

Dwebble Class Scheduler

Dwebble is a class scheduler used by the University of Missouri-Kansas City's School of Computing and Engineering (SCE). Before continuing, ask the administrative office for account permission in order to register and login with Dwebble.

3. Click "Login"

4. You will find the login page

Dwebble	Register	Login

Login

Username

Password

Login

5. After having followed section 3.1 and having your account approved, enter the login information you used for registering your account

6. Click the "Login" button

7. You are now logged in.

1. If you are a department administrator, you will possibly have an "administrative view". Administrator access allows the privilege to create and generate instructor schedules, view *all* current and historical instructor schedules, generate new department semester plans, and view previously generated semester plans.

Dwebble	$admin_user	(logout)

Schedules

You currently have no schedules set. Click below to begin adding schedules and generating semester plans.

Add Schedule

Semester Plans

You currently have no semester plans. Add schedules to generate semester plans.

2. Otherwise, you will have an "instructor view", which allows you to view your own previous semester schedules and current department semester plans.

Dwebble $user_name | (logout)

Schedules

Click on a semester to see your current known schedule
exceptions and preferences for that semester.

Fall, 2019	View
Spring, 2020	View
Fall, 2020	View

Semester Plans

Click on a semester plan to see the full schedule for that
semester.

Semester	Generated	Your Conflicts
Spring, 2020	2020.03.13	View
Spring, 2020	2020.04.09	None
Fall, 2020	2020.04.20	View

3. These are both discussed below in their own use cases.

3.3 Add, Edit, View, and generate instructor schedules and semester plans (Administrator View)

1. After registering an account and being given administrative level privilege, go to the domain serving the dwebble application.

2. For a freshly installed dwebble application, there will be no existing schedules or semester plans.

Dwebble   **$admin_user** | **(logout)**

Schedules

You currently have no schedules set. Click below to begin adding schedules and generating semester plans.

Add Schedule

Semester Plans

You currently have no semester plans. Add schedules to generate semester plans.

3. Click on "Add Schedule" to enter an instructor's schedule.

4. You will now see the Add New Schedule page

5. The first section of the page is instructor information.

   1. Fill in the basic information for the instructor, i.e. their first and last names along with choosing their instructor type from the dropdown menu provided (emeritus, tenured, tenure track, full time adjunct, etc).

Dwebble

New Schedule

Instructor Info

Instructor First Name

Instructor Last Name

Instructor Type   ▲▼

2. Move on to the next section

6. The second section is the General Availability Section

1. Fill in the information for when the instructor is *generally* available, e.g. they are, on average, available on Mondays and are available during most mornings

Instructor General Availability

What are the days and class sessions that the instructor is generally available? Do not worry about any schedule exceptions an instructor may have, e.g. "cannot teach between 2:00PM - 4:00PM on Mondays" or preferences, e.g. "prefers Mondays and Wednesdays", as these will be handled in sections further below.

- Days Available

  - ☐ Monday
  - ☑ Tuesday
  - ☐ Wednesday
  - ☐ Thursday
  - ☐ Friday
  - ☐ Saturday
  - ☐ Sunday

- Class Sessions Available

  - ☐ Morning
  - ☐ Evening
  - ☐ All Day

2. Move on to the next section

7. The third section is Instructor Scheduling Exceptions

1. The first subsection of Instructor Scheduling Exceptions is Time Slots Unavailable. These are the time slots for all days or a specific day or across different days with different time slots unavailable. Fill this section out.

Instructor Scheduling Exceptions

What are the special limitations to the instructor's schedule?

• Time Slots Unavailable

What time slots is the instructor not available? If a time slot applies to only one day, select the day. If there are different days with differing slots of unavailability , click "Add additional day". Otherwise, move to the next section!

☐ 7:00AM - 8:00AM	☐ 2:00PM - 3:00PM
☐ 8:00AM - 9:00AM	☐ 3:00PM - 4:00PM
☐ 9:00AM - 10:00AM	☐ 4:00PM - 5:00PM
☐ 10:00AM - 11:00AM	☐ 5:00PM - 6:00PM
☐ 11:00AM - 12:00PM	☐ 6:00PM - 7:00PM
☐ 12:00PM - 1:00PM	☐ 7:00PM - 8:00PM
☐ 1:00PM - 2:00PM	☐ 8:00PM - 9:00PM
	☐ 9:00PM - 10:00PM

[Everyday ▲▼]   [Add additional day]

1. If the time slot unavailable is the same across all days, do not modify the dropdown menu.

2. If there is only a specific day this time slot unavailability applies to, select that day from the dropdown menu.

3. If there is more than one day with a time slot unavailability, click the "Add additional day" button to add additional days with time slot unavailability as in substep 2. These time slots could be the same or different.

4. Leave blank if unknown and move on to the next section.

5. If known, repeat substeps 1 – 3 as necessary and move on to the next subsection

2. The second subsection of Instructor Schedule Exceptions is Instructor Schedule Conflicts. These are other schedules, i.e. other instructors, with who the current instructor schedule cannot conflict with due to either departmental reasons, e.g. keeping sophomore sequence classes from overlapping to enable dual enrollment for a given semester, or personal/familial, e.g. instructor X cannot teach when instructor Y teaches in order to take care of their children.

- Instructor Schedule Conflicts

  Are there instructors for which the given instructor cannot have schedule overlaps with? This could be used to facilitate class sequencing, e.g. "CS191 and CS303 should not overlap so students may attend both on a day", or due to familial reasons, e.g. "Instructor X needs to be free while instructor Y teaches so they can pickup the kids from school". If there is more than one schedule conflict, click "add additional conflict".

  NOTE: If the instructor is already in the system, they can be selected from the drop down menu provided below; otherwise, they can be manually entered in the name fields provided to the bottom right. If the latter is necessary, then the first and last name MUST match perfectly to the name of the other instructor whose schedule is not yet in this system.

Conflicting Instructor Schedule ⬍		Instructor First Name
		Instructor Last Name

  [Add additional conflict]

  1. If the conflicting schedule has already been entered into the dwebble application, choose their name from the dropdown.

  2. If the conflicting schedule does not exist in the application yet, enter the first and last name of the instructor <u>exactly as it will be entered for their schedule</u> in order to register the conflict during semester plan generation.

  3. If more than one conflict exists, click "Add additional conflict" to add more conflicts.

  4. Leave blank if unknown and move on to the next section.

  5. If known, repeat substeps 1 – 3 as necessary and move on to the next section.

8. The fourth section is Instructor Scheduling Preferences

   1. The first subsection is Days and Class Sections preferred by an instructor, i.e. if an instructor was given the opportunity to choose their ideal class days or time sessions, which would they choose?

Instructor Scheduling Preferences

What are the periods that the instructor prefers, if any? Leave blank of not known.

- Days

  - [ ] Monday
  - [ ] Tuesday
  - [ ] Wednesday
  - [ ] Thursday
  - [ ] Friday
  - [ ] Saturday
  - [ ] Sunday

- Class Sessions

  - [ ] Morning
  - [ ] Evening
  - [ ] All Day

1. Choose days that the instructor prefers

2. Choose the class sessions the instructor prefers

3. Leave blank if unknown

4. Move on to the next section

2. The second subsection is Time Slots preferred by an instructor. These operate the same as the previous subsection and similar to the first subsection of schedule exceptions.

   - Time Slots

     What time slots does the instructor prefer? If a time slot applies to only one day, select the day. If there are different days with differing slots of preferences, click "Add additional day."

     - [ ] 7:00AM - 8:00AM
     - [ ] 8:00AM - 9:00AM
     - [ ] 9:00AM - 10:00AM
     - [ ] 10:00AM - 11:00AM
     - [ ] 11:00AM - 12:00PM
     - [ ] 12:00PM - 1:00PM
     - [ ] 1:00PM - 2:00PM
     - [ ] 2:00PM - 3:00PM
     - [ ] 3:00PM - 4:00PM
     - [ ] 4:00PM - 5:00PM
     - [ ] 5:00PM - 6:00PM
     - [ ] 6:00PM - 7:00PM
     - [ ] 7:00PM - 8:00PM
     - [ ] 8:00PM - 9:00PM
     - [ ] 9:00PM - 10:00PM

     Everyday ⬍   Add additional day

1. If the time slot preferred is the same across all days, do not modify the dropdown menu.

2. If there is only a specific day this time slot preference applies to, select that day from the dropdown menu.

3. If there is more than one day with a time slot preference, click the "Add additional day" button to add additional days with time slot preference as in substep 2. These time slots could be the same or different.

4. Leave blank if unknown and move on to the next section.

5. If known, repeat substeps 1 – 3 as necessary and move on to the next subsection

9. The fifth section is Special Notes on Instructor Schedule

1. These are exceptions, preferences, and other scheduling requirements that currently cannot be captured in a generalized form by the dwebble application, e.g. "Instructor X prefers classroom 123 in building Flarsheim due to its proximity to their favorite vending machine."

Special Notes on Instructor Schedule

Some scheduling preferences, limitations, and necessities are simply too complex to currently capture. In order to help administration catch these particular requirements, enter a note for each such scheduling requirement. If more than one exists for the instructor, click "add additional note."

These special requirements will be notified to the administrator when a semester plan is generated so that they can be sure to facilitate the special requirement(s) of an instructor before a finalized schedule is sent out.

Special scheduling requirement.

Be succinct in order to not spam the special requirements notification that will be attached to a potential semester schedule for this instructor.

Add additional note

1. If a special requirement is known, write a short description of it in the field.

> 2. If more than special requirement is known, click the "Add additional note" button to add additional special requirement notes.
>
> 3. If unknown, leave blank and move on to the next section.
>
> 4. If known, repeat substeps 1 – 2 as necessary and move on to the next section.

10. The sixth and final section is Submit Instructor Schedule

> 1. After confirming the entered data, click the "SUBMIT INSTRUCTOR SCHEDULE" button to add the instructor's schedule into the dwebble application's schedule database.

Submit Instructor Schedule

When all instructor scheduling information is entered, click the submission button provided below. Their schedule will be added to the list of existing schedules in the system. If an entry error needs to be corrected, you will be able to update it from the main page. Similarly, if not all schedule information is known, an instructor's schedule can easily be updated as necessary.

> > SUBMIT INSTRUCTOR SCHEDULE

> 2. You will now be redirected to the landing page.

11. After repeating steps 3 – 10 as required for the semester's schedule, you will now be able to see instructor schedules on the home page, review and edit instructor schedules, add new instructor schedules, generate semester plans, and view semester plans.

Dwebble $user_name | (logout)

Schedules

Click on a semester to see your current known schedule
exceptions and preferences for that semester.

Fall, 2019	View
Spring, 2020	View
Fall, 2020	View

Semester Plans

Click on a

Semester	Generated	Your Conflicts
Spring, 2020	2020.03.13	View
Spring, 2020	2020.04.09	None
Fall, 2020	2020.04.20	View

3.4 Viewing Instructor Schedules (User view)

1. After registering an account and being given user level privilege, go to
   the domain serving the dwebble application.

2. For a freshly installed dwebble application, there will be no existing
   schedules or semester plans.

3. After an administrator has added your schedule for any given semester
   and/or has generated semester plans, you may now view your current
   and previously entered instructor schedules along with semester plans
   generated by the department.

| Dwebble | $user_name | (logout) |

Schedules

Click on a semester to see your current known schedule exceptions and preferences for that semester.

Fall, 2019	View
Spring, 2020	View
Fall, 2020	View

Semester Plans

Click on a

Semester	Generated	Your Conflicts
Spring, 2020	2020.03.13	View
Spring, 2020	2020.04.09	None
Fall, 2020	2020.04.20	View

4 Troubleshooting

4.1 Missing or Incorrect Password or E-Mail

An OWASP complaint error message will be shown if an incorrect or non-existent username-password pair are entered by the user.

| Dwebble | Register | Login |

Login

LOGIN FAILURE: Invalid username or password entered. Please try again.

| Username |
| Password |

Login