

# Frontage Toxicology Studies Task Scheduler

## Software Requirements

- **Log in**
  - Enter username and password (masked with dots)
  - Validates entries
  - Passwords verified and stored with SHA2\_512 hash
- **Main Form**
  - Navigate to:
    - Studies Form
    - Tasks Form
    - Events Form
    - Technicians Form
    - Admin Dashboard
  - Schedule button
    - Generates schedule for given day
    - Day determined by date picker
- **Studies Form**
  - Results in data grid view:
    - Study Number
    - Sponsor
    - Technician Name
  - Filter by:
    - Study Number (text box with “Go” button)
    - Sponsor (combo box)
    - Technician (combo box)
    - Show only current/future studies (checkbox - uncheck to see studies whose end date has already passed)
  - Displays information for:
    - Study Number (masked text box)
    - Sponsor Name (text box)
    - Technician Name (combo box)
    - Start date (date time picker)
    - Color (hides options for colors being used in other current studies)
  - Action buttons:
    - New: create new study
    - Modify: modify an existing study
      - Not enabled until user selects a study
    - Save: insert new study into database or update existing study
      - Input validation:

- Ensure Study Number, Sponsor Name, and Technician Names, and Colors have values
  - Ensure Study End Date is after Study Start Date
    - Not enabled until a user modifies a study
  - Undo: undo changes made since selecting given study
    - Not enabled until a user modifies a study
  - Delete: soft-delete a study (not removed from the database but flagged as deleted)
    - Not enabled until user selects a study
    - Deletes all of a study's tasks and events as well
  - Navigation buttons:
    - View tasks for study: navigates to Task Form showing only tasks for the selected study
    - Main Form: navigates back to Main Form
    - Tasks Form: navigates to Task Form and displays all tasks
    - Events Form: navigates to Events Form
    - Technicians Form: navigates to Technicians Form
- **Tasks Form**
  - Results in data grid view:
    - Study Number
    - Task Type
    - Technician Name
    - Task Start Date
    - Study Start Date
    - Study End Date
    - Total Event Count
  - Filter by:
    - Study Number (combo box)
    - Technician (combo box)
    - Task Type (combo box)
    - Show only current/future studies (checkbox - uncheck to see studies whose end date has already passed)
  - Displays information for:
    - Study Date Range (two uneditable date time pickers)
    - Task Start Date (date time picker)
    - Study Number (combo box)
    - Technician (combo box) - noneditable and attached to Study's technician
    - Task Type (combo box)
    - FREQUENCIES:

- One time event (check box) - if checked:
  - Weekly Frequency is “None” and non-editable
  - Number of Occurrences is set to 1 and non-editable
  - Daily Frequency is “Once a day” and non-editable
- If not checked:
  - Weekly Frequency is editable
  - Number of Occurrences is adjustable
  - Daily Frequency is editable
- Weekly Frequency (combo box) options:
  - None
  - Once a week
  - Everyday
  - Weekdays
  - Weekends
  - Custom days
    - Pick any combination of the 7 days in a week
- Number of Occurrences (numeric up down)
  - Determines the number of occurrences in days (daily frequency does not count in this)
- Daily Frequency (combo box) options:
  - Once to five times a day
- SCHEDULING TIMES
  - Specific Timed Event (check box) - if checked
    - Start Times are absolute
    - Conflicts with technicians’ other events will drop events and notify users of what events are dropped at what time
  - If not checked
    - Start Times turn into “Desired Start Times”
    - Conflicts with technicians’ other events make the new events find the next available time and do not drop
  - Start Time (check box)
    - 15 minute increments from 6:00 AM to 12:00 AM
    - Default to 9:00 AM
  - Add Daily Events (button) - only visible if Daily Frequency is not set to “Once a day”
    - Opens additional form to enter Start Times for additional daily events
  - Duration (combo box)
    - 15 minute increments from 15 minutes to 12 hours

- Default to 30 minutes
    - Comments (text box)
  - Action buttons:
    - New: create new task
    - Modify: modify an existing task
      - Not enabled until user selects a task
    - Save: insert new task into database or update existing task
      - Updating a task deletes all of its current events and regenerates them with updates
      - Input validation:
        - Ensure Task Start Date doesn't exceed Study End Date
        - Ensure Study Number and Task Type have values
        - Ensure additional Daily Events times have been added if daily frequency is not "Once a day"
      - Not enabled until a user modifies a study
    - Undo: undo changes made since selecting given study
      - Not enabled until a user modifies a study
    - Delete: soft-delete a study (not removed from the database but flagged as deleted)
      - Not enabled until user selects a study
      - Deletes all of a task's events as well
  - Navigation buttons:
    - View events for task: navigates to Event Form showing only events for the selected task
    - Main Form: navigates back to Main Form
    - Studies Form: navigates to Studies Form
    - Events Form: navigates to Events Form and displays all events
    - Technicians Form: navigates to Technicians Form
- **Events Form**
  - Results in data grid view:
    - Event Count
    - Study Number
    - Task Type
    - Technician Name
    - Day of Week
    - Date
    - Start Time
    - Duration in Minutes
  - Filter by:

- Study Number (combo box)
- Technician (combo box)
- Task Type (combo box)
- Show only current/future studies (checkbox) - uncheck to see studies whose end date has already passed
- Show only today's events (checkbox) - check to view only events for current date
- Displays information for:
  - Event ID (text box - uneditable)
  - Task ID (text box - uneditable)
  - Task Event Count Search (numeric up down)
    - Increment to the desired event count with the selected task and then hit search
  - Study Number (combo box)
  - Primary Technician (combo box)
  - Task Type (combo box)
  - Event Date (date time picker)
  - Start Time (combo box)
  - Duration
  - ADDING ADDITIONAL HELP
    - Additional help (check box) - if checked
      - Shows combo box to select other technicians not also assigned to selected event
      - Shows button to duplicate selected event and just modify the technician field to selected additional technician
  - Comments (text box)
- Action buttons:
  - New: create new event
    - Not enabled until user selects a task (will create new task with that ID) or if the user comes over from the Task Form using the "View Events for Task" button
  - Modify: modify an existing event
    - Not enabled until user selects an event
  - Save: insert new event into database or update existing event
    - Input validation:
      - Ensure Study Number, Primary Technician, Task Type, and Duration
    - Not enabled until a user modifies an event
  - Undo: undo changes made since selecting given event

- Not enabled until a user modifies an event
  - Delete: soft-delete an event (not removed from the database but flagged as deleted)
    - Not enabled until user selects an event
- Navigation buttons:
  - Main Form: navigates back to Main Form
  - Studies Form: navigates to Studies Form
  - Tasks Form: navigates to Tasks Form
  - Events Form: navigates to Events Form
  - Technicians Form: navigates to Technicians Form
- **Technicians Form**
  - Results in data grid view:
    - Name
  - Search by:
    - Technician (text box with “Go” button)
  - Displays information for:
    - Technician ID (uneditable text box)
    - First Name (text box)
    - Last Name (text box)
    - Nickname (text box)
    - Initials (text box)
    - Email (text box)
  - Action buttons:
    - New: create new technician
    - Modify: modify an existing technician
      - Not enabled until user selects a technician
    - Save: insert new technician into database or update existing technician
      - Input validation:
        - Ensure all fields have values except for email
      - Not enabled until a user modifies an technician
    - Undo: undo changes made since selecting given technician
      - Not enabled until a user modifies a technician
    - Delete: soft-delete a technician (not removed from the database but flagged as deleted)
      - Not enabled until user selects a technician
  - Navigation buttons:
    - Main Form: navigates back to Main Form
    - Studies Form: navigates to Study Form
    - Tasks Form: navigates to Task Form

- Events Form: navigates to Events Form
- **Admin Dashboard**
  - Only visible to select if user has admin privileges
  - Results in data grid view:
    - Username
  - Displays information for:
    - Username (text box)
      - Only editable if creating a new user
    - Is Admin? checkbox
    - If creating a new user
      - Password and Confirm Password (text boxes)
    - If updating a user
      - Change Password (check box) - if checked
        - New Password and Confirm New Password (text boxes) appear
  - Action buttons:
    - New: create new user
    - Modify: modify an existing user
      - Not enabled until user selects a username
    - Save: insert new user into database or update existing technician
      - Input validation:
        - Ensure both password fields match
      - Not enabled until a user modifies a user
    - Undo: undo changes made since selecting given user
      - Not enabled until a user modifies a user
    - Delete: soft-delete a user (not removed from the database but flagged as deleted)
      - Not enabled until user selects a user
- **Schedule Button**
  - Allows user to save Excel File outputting all of the technician events for selected day
- **Excel Output**
  - Rows: time in 15 minute increments from 6:00 AM to 11:45 PM
  - Columns: technicians
  - Cells: events for technicians at given times color-coded by study number
    - Contains study number, task type, and comments (if applicable)
  - Legend with Study Number and given Colors