

ME 4020 Prototyping Orders Tracking System

In the Mechanical Engineering capstone course (ME 4020), student teams are encouraged to build prototypes to demonstrate the functionality of their proposed solutions. Teams are guided to various commonly used resources to obtain supplies but can choose almost any supplier they wish.

Today, the requests for those supplies are submitted (ideally) in an Excel file. The template is provided to the class via Canvas. Teams complete it and email it to the instructor. A single order file may contain items from any number of suppliers.

The instructor places orders as they are submitted, usually the same day if the order is submitted by 5pm.

The instructor must track these individual Excel files, placing orders to different suppliers. Often, multiple orders are submitted to the same supplier on the same day. The instructor tracks the shipping, delivery, and distribution of the orders to the teams.

The administrative load is significant. At peak times during a semester, many separate Excel order files are active, in various stages – having been ordered, partially delivered, delayed, etc. During this time, students do not have visibility of the status unless they contact the instructor. When they occur, such requests for updates from the students, only add to the administrative burden.

The desire is to have a system which provides an easy way for teams to enter requests and to have visibility on the various phases of acquiring the supplies. From the instructor perspective, the system needs to permit grouping of orders by supplier and an easy way to update the status that the students will see.

Access to the system must be limited, roles of student and instructor separated, and visibility of information by the students only their team's orders.

More detailed functionality needs are listed on the following page.

ME 4020 student team supplies ordering system

- Provide an interface for students to enter information on commercial item(s) to be ordered. This can be based on the information entered on the current Excel document (ME 4020 COTS order.xls)
 - o Identify student by name and section (available from Canvas directly or by export)
 - o Student must enter a team name / number
 - o Require log in
- Provide an interface for instructor to manage orders
 - o See new orders placed + notification of new or modified orders
 - o Delete or modify information on the order; delete the order completely
 - o Group/sort by supplier, section, student, ...
 - o Update order status by item (Requested, Ordered, Delivered, Delayed, Reordered, On Hand, Cancelled, Other)
 - A change in status triggers email to student
 - A space for instructor to enter free text to be added to the email
- Provide visibility to student on current orders
 - o Only their information is visible (other teams' orders hidden)
- Instructor may also manage additional users (must have a clemson.edu email)
 - o Roles: Student, Instructor
 - o Instructor may add or remove users
 - o Instructor = Administrator; at least 1 user must have instructor role
- Web interface accessible on Clemson network
- Instructor may also place orders by entering requesting student information (act as proxy for student).
- Easy set up each semester (export/clear previous semester information, add new students and other users)