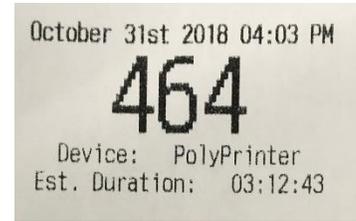


# Wait Queue (WQ)

## Things to Remember

- Each WQ ticket issued will print a paper ticket (shown to the right) that will list the WQ#, the device, and if available it will print the estimated time.
- Only 1 WQ ticket is allowed per person per device/device group (ie *PolyPrinter*).
- Some waiting queues are either machine specific (*laser cutters, embroidery, etc.*) or the first that comes available in the group (*PolyPrinters 1-9*).



WQ ticket example

- If you see the message to the right, inform the learner that they cannot have two printers printing at the same time. Once resolved, check the box and issue a WQ ticket to the learner.

Operator has an active Ticket, please inform user of policy.

*If a learner has a ticket active on a device group (ie PolyPrinter) you will see the following dialog box.*

- When the next person in line has their ticket made, their ID must match the ID listed in the WQ. By clicking on the person icon, you can update a learner’s ID/contact info (ie if the WQ ticket has been given to another person).



## Notifying Learners

- ✧ *To be certain that we can reliably notify our learners, input **both** the email and phone number for all WQ tickets.*
- ✧ *On the Wait Queue System page there is a listing of all supported phone carriers. While carriers like MetroPCS are not explicitly listed, they are usually contacted via the T-Mobile SMS gateway.*

## Wait times now show in 3 different colors.

- **Black time values** estimate the time remaining until we call their number.
- **Yellow time values** show that the person was alerted to come to the FabLab and the amount of time remaining before we may move on to the next learner. The bell next to the time shows when the secondary timer started.
- **Red time values** show the amount of time past the end of the secondary timer. On the WQ Ticket page, when the secondary timer expires, the remove button will also turn red. Once red, remember to remove that row.



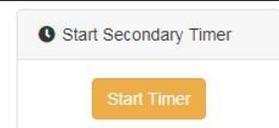
### Time Left

🕒 0:04:22 🔔

🕒 -0:09:41 🔔

Before we skip and remove them from the WQ system, please call out their number and the device (ie “Last call for ## for 3D Printing”). Work as a team and communicate with each other when you remove a learner.

If the WQ ticket has no contact info, we can start the secondary timer by clicking on the person icon and then selecting “Start Timer” (only shown if no contact info was provided).

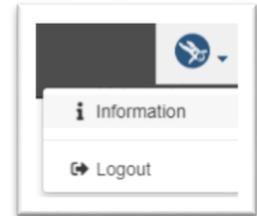


## Authorized Recipient

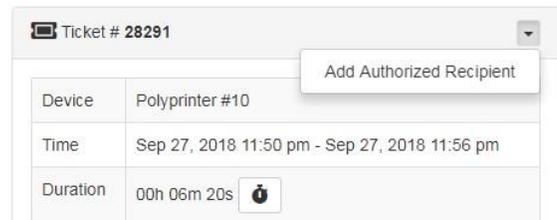
**Example Situation:** *Learner A & B* are in a group project. *A* starts a print and asks if it is possible for *B* to pick up the print. *A* can now login and add *B*'s Mav ID to a specific ticket. When *B* comes in to pick up the print, use the 'Pick Up 3D Print' function and it will find any prints that *B* can pick up. By default, FabApp will ask that *B* pay for the print. As with standard practice, only the person & ID present can pay for the print.

To add an authorized recipient of a print...

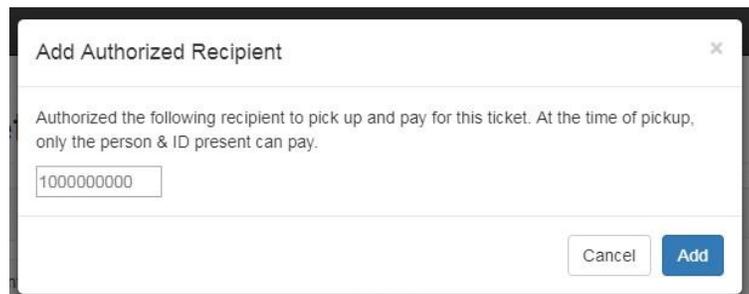
1. Have the learner login to FabApp and select *Information* in the top right menu. This will open a page that lists all their tickets.
2. Select the specific ticket that *Learner B* will be added to, this will navigate you to the *Ticket Details* page. Likewise, if the ticket is currently active you can just select it from the main page.



3. Once on the *Ticket Details Page*, select the dropdown carat and select "Add Authorized Recipient". Once selected this will open a modal (pop-up window).



4. Now that the modal is open, *Learner A* can type in the ID of the person they would like to add and select *Add*. Only the learner that started the ticket will be able to add recipients.



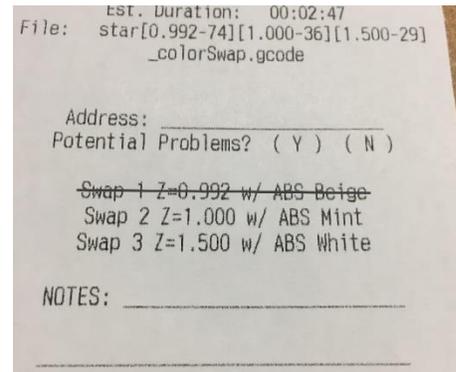
5. Each person that is added to this ticket will be listed in a new field, as seen to the right.



Special thanks to Samuel, Gabriel, & John P. for the feedback on making color swaps easier for everyone. This is intended to replace all other methods for doing a color swap as they are prone to misalignment or deposit unwanted plastic onto the object.

1. Slice your file. Make note of the Z locations.
2. State the Z height and the color for each swap.
3. Upload the G-code file to the ColorSwap section of the tools page.
4. Click “*submit*” & it will verify the number of swaps.
5. Click “*Okay*” and the new file will be downloaded with all the necessary G-code needed to do each swap.

Do not change the name of the new file that you receive; it has the colors encoded in the name. When you print that file, the location and the color needed for that swap will print on the ticket. You may add as many colors as you need but each Z value must be contained within the G-code.



*When the new file is printed, the print receipt should look similar to the example above.*

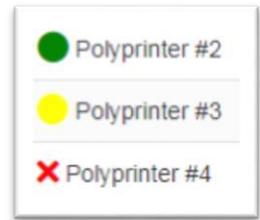
When Octoprint reaches the ColorSwap G-code, expect the following:

1. The PolyPrinter will zero the X axis and raise the Z axis by 10 mm. This will give you enough clearance to change the color and remove any stray bits. All motors should be engaged and you shouldn't be able to move them around.
2. Refer to the print receipt for which color to place into the printer.
3. Use the Octoprint interface or manual control to extrude enough filament for a proper color change.
4. Draw a line through the row of ColorSwap instructions to show that that swap has been completed.
5. Click “*resume*” in Octoprint.
6. The PolyPrinter will now lower by 10mm. Zero both the X & Y axis and resume printing.

Attached to this email is a file named “*star.stl*”. If the lab is slow, do a print with this file and select the Z location for the ColorSwap when the object switches from a hexagon to a star. Pick any two colors that you would like but use this as an opportunity to become familiar with the new process.

## Service Ticket (ST)

A vital part of Wait Queue's functionality is our ability to remove devices from service when a problem impairs its functionality. To do that we refactored the code given to us from one of the CSE 3311 project teams. I'm sure you have all seen the green dots located next to each device. What you might not have known was that dot is a link to see the device's service history. More on that later. This new module is intended to replace mentioning any broken devices via GroupMe or email. If we all use ST, the visibility of the problem will be available to all staff and learners. At this time, we have chosen not to allow external users (*learners*) to read that information.



There are 3 main types of Service Levels.

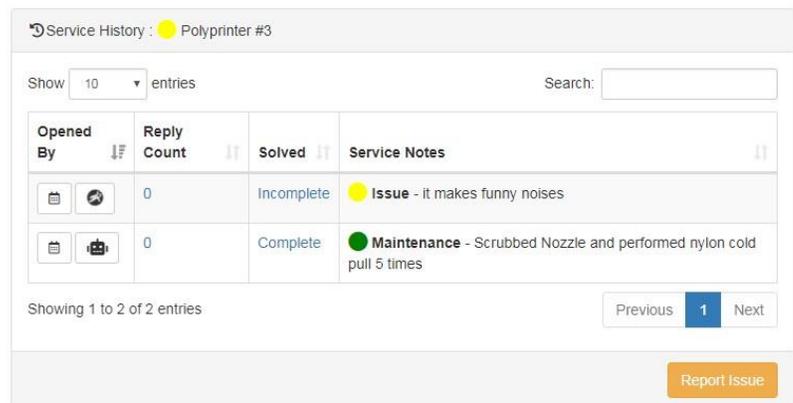
- Maintenance – any type of regular maintenance that you are authorized to perform on that device. *daily cleaning, changing tape, or other care items*
- Issue – any phenomena that do not prevent the safe operation of the device but may need to be addressed.
- NonOperating – the device is in a state that it should not be used. New tickets will be blocked from being created on this device, unless you are a service technician.



To find a device's service history navigating using the side menu.

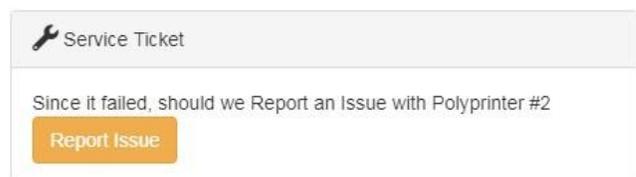
Service -> Device History => Select Device Group -> Select Device -> Select

To the right, is an example of the history for Polyprinter #3. At the top it will show the overall status of the device. If the ST are either an Issue or NonOperating and they are incomplete, that will impact the overall status of the device. Avoid duplicating STs by reviewing existing incomplete tickets before reporting a new issue. To report an issue, click the button in the bottom right.



Opened By	Reply Count	Solved	Service Notes
	0	Incomplete	<span style="color: yellow;">●</span> Issue - it makes funny noises
	0	Complete	<span style="color: green;">●</span> Maintenance - Scrubbed Nozzle and performed nylon cold pull 5 times

Any time you mark a print as failed you can also report an issue.



Service Ticket

Since it failed, should we Report an Issue with Polyprinter #2

Report Issue

**Report Issue** - Select the device and the appropriate service level. Then write your notes, please be as descriptive as you can. If you are the author of the ST, you can always go back and edit your notes about the issue.

**ST & Service Replies(SR)** – Each ST that is marked with a service level of Issue or NonOperating require a Service Reply to be completed. SRs are notes that will either explain the issue further, change the service level, or provide remedy to the ST. Click on either the number or the solved status so view the replies.

Reply Count	Solved	Service Notes
0	<a href="#">Incomplete</a>	✖ NonOperating - Broken Examp
0	<a href="#">Incomplete</a>	● Issue - it makes funny noises

The service replies have a similar layout to the ST, these will be written by either Service Technicians(external), Student Service Technician(internal), or Admin (any full-time staff).

**FabApp Problems** – Like the other devices that we can report issues for, please use the new ST to report any issues that you may have. This can be found under the device group “Applications & Software”. Include any relevant information in the notes field. Should the issue you are reporting pertain to ST functionality, please send a message to Jon Le.