

Project Scope for Tech Troubleshooting LLM.

Project start date: 5/12/25

Scope:

Project to include development of a Large Language Model for assisting the Setup Techs at H&H Molds Inc. in troubleshooting mold conditions when machines are producing parts that are out of spec cosmetically. (dimensional verification of parts to be added as a stretch project if the initial project is completed and there is time left to complete the additional work).

* This project shall include the HRD2 Pro Top and Bottom housing for parts.
* The model shall be hosted locally on hardware identified by Dawson and put in place with the help of Cycrest. Dawson to get the list of components to Paul by 4/25 and Paul to have purchase and on hand prior to the 5/12 start date.
* The model shall have inputs for text and images with text being the likely first contact form. The model should allow for different terms used for the same things in the language of setup techs and be able to consolidate the range of items that mean the same into a single meaning for the model. The idea is to allow the LLM to provide good feedback even when the techs prompting isn’t.
* The model shall have the ability for the techs to prompt for additional information after the initial troubleshooting similar to the way other models like Gemini can be.
* The model shall be able to be used from a tablet / smart phone or a computer.
* The model shall be capable of taking an image of a part and making the decision if the part is acceptable or not, what the defect is and direct the tech the direction to correct the press, material or other controls to improve the part. The model should be able to identify the part without assistance. “put the part in hit a button and out comes the info”.
* The model shall be expandable. Once the work is complete on the initial two parts the model should be able to have other part numbers added to it. The idea is to have all troublesome parts to be supported by the LLM and be able to add them on as they are identified.
* A device to capture image data from the two parts will need to be developed. H&H has purchased a light box ahead of time to have on hand for this purpose. Dawson will identify cameras that are appropriate of the task at hand and we will procure them ahead of time. It would be good if this same device could be used on the line after LLM development for defect detection and duplicated for other presses.
* Dawson to work with Kevin to ensure components identified are appropriate and won’t cause issued down the road including with Kevin’s portion of the project.

**Team**,

* Paul Lead
* Kevin Outside consulting support for the LLM
* Dawson Data acquisition and LLM Development and device build
* Gary Support
* Chuck Support
* Jacob Support
* Ray Support

Timeline and other information to be provided once the project kicks off.

**Actions prior to start date:**

Paul: Have QA team pull defect samples of different types. Try to have a full box of tops and bottoms with defects to add to the model.

Dawson: Identify hardware needs including computer, and cameras and any other peripherals by 4/25

Paul: Purchase items Dawson has identified and have onsite. 5/08