

HPSS Lab

Project Title: Android AR Semiconductor Training App

Client: Jack Hall (On behalf of Dr. Mehmet E. Belviranlı's HPSS Lab)

Team Size: 4 Students

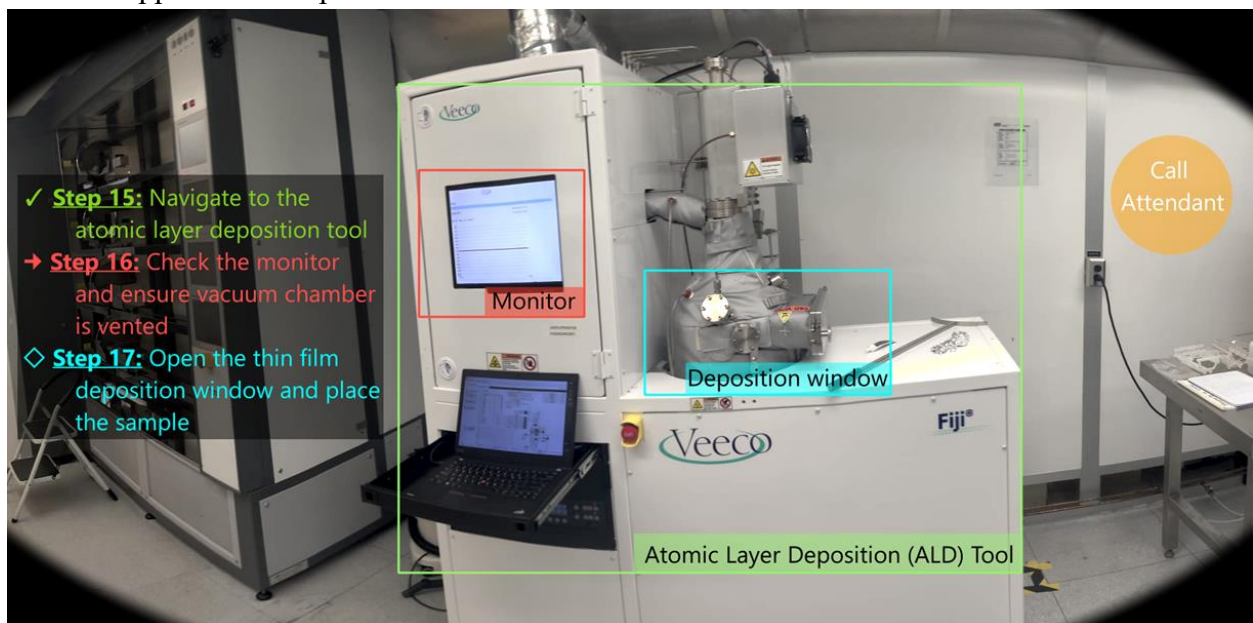
Location: On campus

NDA not required

Project Summary:

The HPSS lab has been working on a project to develop an application to guide users through the use of a clean room environment for the development of semi-conductors. We hope this application will help streamline the use of lab equipment and help train individuals to use that equipment. Current applications are built around a HoloLens 2 AR headset but are limited due to hardware restrictions. This project would focus on building an Android XR version of this application. Android XR is Android's new AR framework.

General Application Proposal:



App Requirements:

- Augmented Reality Environment
- Runs a custom YOLO based model to detect lab objects
- Can display bounding boxes based on those YOLO model detections
- Displays set instructions
- Method to increment/confirm steps

Stretch:

- Miscellaneous Support Features
 - Timers based on instructions
 - Branching instruction support
 - Description mode - A separate mode which will show information based on what machine is seen in user view

Deliverables:

- Android XR Application

- Detailed Operation Guide