Requirements

1. The tool will be for beginner level students.
2. The tool will be deployed on Jupyter.
3. The user will be able to add a reflective note when completing their work.
4. User reflections will be presented to the user at the end of the Jupyter notebook so they can evaluate their work.
5. Students will be able to retrospectively review their previous work and self-reflective data.
6. Users will be able to record the time spent on tasks.
7. The self-reflective data gathered from the Notebooks should be available in a form which a professor or lab tutor would be able to review all the given responses for a lab Notebook i.e. a document with every students notes and responses.
8. The tool should guide students through a reflective cycle (Gibbs) to evaluate their responses.
9. Develop a way for the user to decide an action plan based on their reflections

Functional

1. Beginner-level tool, simple interface
2. Deployment on Jupyter
3. Reflective note
   1. This will be a markdown cell which a user can input text.
   2. There will be a text prompt to help the user reflective on their experience
4. Emotion tracking
   1. The user will be prompted to select an emoji of either happy, medium, or angry before they start the notebook and when they finish the notebook
5. Presentation of user reflections at end and beginning of lab session
6. Retrospective review of reflection
7. Time tracking
   1. There will be a stopwatch at the top of the notebook page
   2. The stopwatch will have a start, pause and reset function.
8. Data availability for professors and tutors
   1. The data from users will be accessible via .txt file
   2. The data will include time spent on each section of the notebook and the user’s reflective notes
9. The tool should guide the user through a reflective cycle based on their inputs
10. The tool should suggest an action plan based on the user’s reflections

Non-functional

1. Usable: Easy to use
2. Scalable: The implementation should be able to support a number of users and should be able to support multiple types of Python labs
3. Secure: User reflections should be stored securely to avoid data breaches