

Marvin EOL Camera Project

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Sponsor: Marvin Windows



BUSINESS NEED

Overview of Company

Marvin Windows is a large-scale company which manufactures and sells windows and doors of many varieties. They have various product lines of both custom and standard configurations.

Business Problem

- Problem occurs at the EOL phase of the manufacturing process.
- Take picture → query data → overlay data → store image → update database (Fig. 1).
- Very slow, taking around 30-60 seconds per picture.
- Crashes often, taking even more time to fix.
- Hypothesized Issue is the current camera system (Fig. 2).

Capstone Goals

- Research Alternate Solutions to the Problem.
- Speed up the overall process.
- Update scripts, as necessary.
- Update designer components, as necessary.



BUSINESS SOLUTION

Explanation of solution (IP camera)

- Implemented through the company's End Of Line application in Ignition.
- Backed by an IP Camera with POE allowing for streaming into Ignition.
- This alters the workflow (Fig. 4) to remove the number of dependencies.
- A universal camera script was written in Jython to interface with any IP Camera.

Technologies Used



Results

- The Capstone Team has learned about IP Camera's and the HMI Ignition.
- From our testing, our solution is very quick, and the camera does not crash.
- Intentionally designed scripts to be extensible and scalable to different locations.
- Overall, our solution is quicker and more reliable which suits our sponsor's needs.

Images & Diagrams

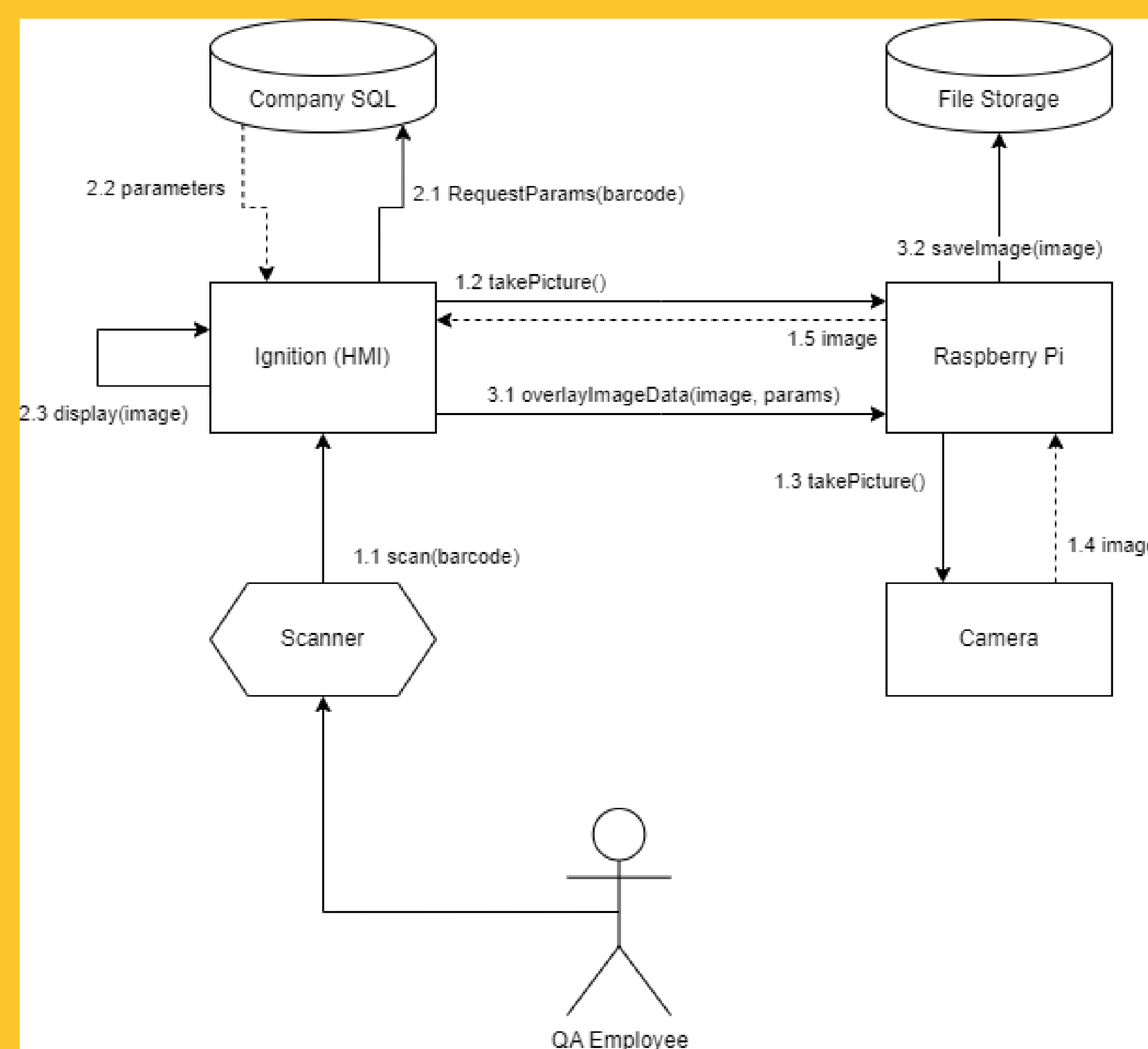


Fig. 1: Original Diagram



Fig. 2: Original Camera

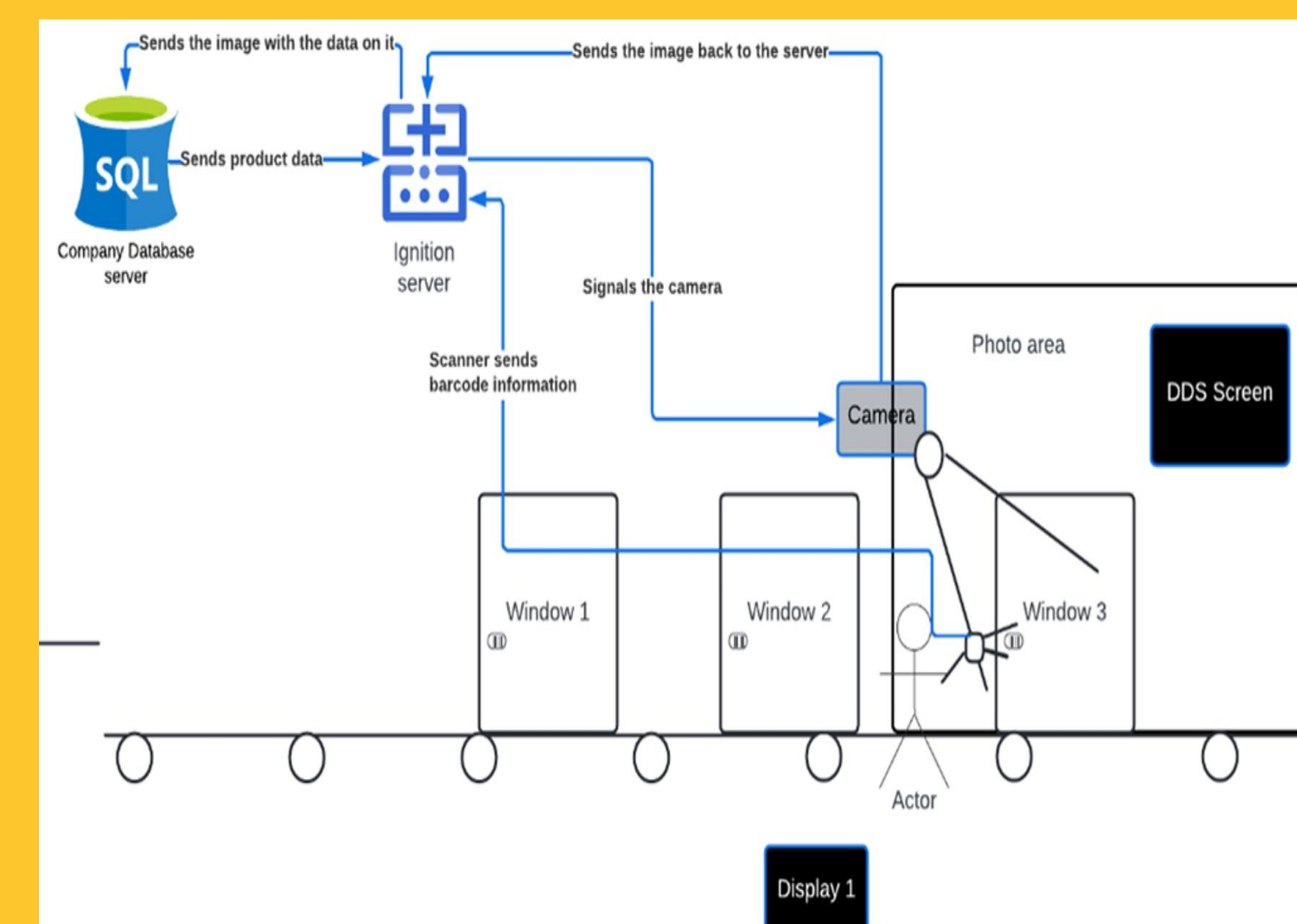


Fig. 3: EOL Diagram

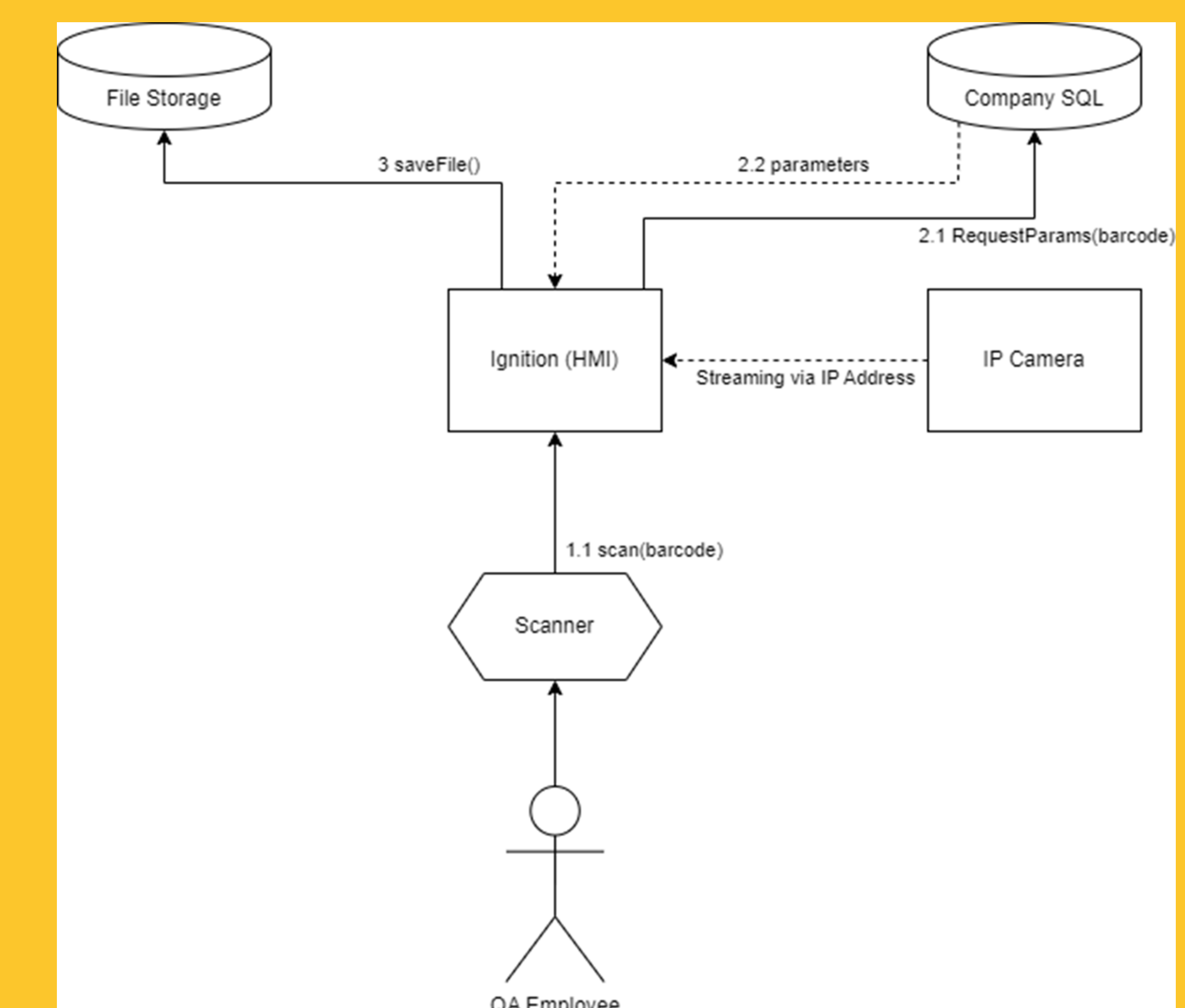


Fig. 4: Solution Diagram