

## Forward Deployed Engineer

### Overview

Farmers frequently misidentify noxious weeds because many invasive species share similar traits. For example, *bull thistle* and *musk thistle* both present with purple flower heads but differ in lifecycle and bract structure.

Farmers would like help answering questions like:

- “I have a weed with Purple flower heads, nodding, spine-tipped bracts, rosette present last fall. Which thistle is this?”
- “What is the correct timing window for treating diffuse knapweed at the rosette stage?”
- “How should saltcedar be controlled if mowing is ineffective?”

### Requirements

- Farmer-facing UI for describing observed plant characteristics.
- Backend retrieving:
  - Candidate species based on identification keys.
  - Lifecycle and growth-stage details.
  - Recommended control methods (mechanical, cultural, biological, chemical) with timing.

### Deliverables

- Demo of the system and executable codebase
- High level overview of the solution

### Dataset

<https://sam.extension.colostate.edu/wp-content/uploads/sites/2/2019/06/NoxWeedMangementGuide2019LasAnimas.pdf>