

Department of Computer Engineering

University of Peradeniya

CO2060 – Software Systems Design Project

Team Name: SENTINELS

Registration Numbers: E/22/054,E/22/378,E/22/179,E/22/205

Date: January 12, 2026

2YP Project Timeline and Workflow

- Phase 1: Planning (Jan 12 – Jan 18)**

- Finalize project scope and objectives.
- Define system modules:
 - * OCR module
 - * AI reasoning module
 - * Automation (cursor/keyboard) module
- Set up development environment and tools.

- Phase 2: OCR Prototype (Jan 19 – Feb 1)**

- Implement background OCR module with hotkey trigger.
- Enable rectangular screen region selection.
- Extract text and copy to clipboard.
- Test OCR accuracy on sample screen content (errors, installation dialogs).

- Phase 3: AI Integration & UI/UX Design (Feb 2 – Feb 22)**

- Define AI reasoning workflow (local vs cloud).
- Connect OCR output to AI module.
- Display AI suggestions using on-screen chatbot.

- Phase 4: Automation Suggestions (Feb 23 – Mar 1)**

- Add basic mouse/keyboard automation for guided actions.
- Integrate automation with OCR module.
- Test automation safety on sample software installations.

- Phase 5: Prototype Testing (Mar 2 – Mar 15)**

- Perform end-to-end testing of the complete workflow.
- Identify and fix OCR, AI, and automation bugs.

- **Phase 6: Documentation (Mar 16 – Mar 31)**

- Prepare user and developer documentation.
- Finalize report and submit working prototype.

Next Semester upgrades (Post-Mar 31)

- Making Website for introduction.
- Optimize AI for speed and accuracy.
- Add advanced automation features.
- Improve UI/UX of chatbot.
- Performance tuning (CPU/memory optimization).

Weekly Schedule Overview

Week	Duration	Key Activities
Week 1	Jan 12 – Jan 18	Project planning, scope definition, role allocation, tool selection
Week 2	Jan 19 – Jan 25	OCR research, screen capture implementation, region selection
Week 3	Jan 26 – Feb 01	OCR refinement, hotkey triggering, clipboard integration
Week 4	Feb 02 – Feb 08	AI workflow design, OCR–AI integration, response validation
Week 5	Feb 09 – Feb 15	Chatbot UI/UX design, on-screen interaction testing
Week 6	Feb 16 – Feb 22	AI response optimization, UI improvements, edge-case handling
Week 7	Feb 23 – Mar 01	Mouse/keyboard automation, AI-guided actions, safety checks
Week 8	Mar 02 – Mar 08	End-to-end system integration, debugging, performance tuning
Week 9	Mar 09 – Mar 15	Final testing, bug fixing, prototype stabilization
Week 10–11	Mar 16 – Mar 31	Documentation, final report preparation, submission