

Software Development Process (SDP)

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CS 461

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Principles

- We are responsive and answer any questions and communications within 24 hours.
- We are proactive and complete assignments in advance when possible.
- We are open and transparent when communicating. All ideas and views are treated equally.
- We use Github Projects to manage our backlog, and work on it when possible.
- Backlog should be updated regularly based on discussion during weekly meetings.
- All work items are as small and as granular as possible.
- All changes are developed in a separate git branch.
- After the change is complete, make a pull request and link the issue. Make sure the pull request aligns with the specified definition of done.
- Be open and communicative about any progress made, if there are any delays, make sure to notify team members.
- Don't be afraid to ask for assistance
- Members need to check that all major functional merges work as expected, even if they pass the pull request.
- All changes to the code should be thoroughly documented once complete.

Process

- Team Meetings and Planning(1/week)
- Demo/Review with TA(1/week)
- Meeting with Project Partner(~1/ 4 weeks)

- Merge Meeting(1/ 2 weeks)

Roles

The following roles will be rotated on a monthly basis and tracked using the roles.md file in the repository.

Administrative Roles:

Team Lead - Keeps track of due dates, makes sure that team is on track

Liaison - In charge of contacting Project Partner, professors, and T.A.s with any questions

Planner - Sets date and time for weekly meetings, makes an agenda for them

Secretary - Takes notes on meetings

Development Roles:

Physics/Navigation Development - Making the movement and collision system

ADAS Designer - design and develop the ADAS implementations

Modeler - In charge of finding and/or making the 3D models for use.

Graphics Designer - Chooses colors, lighting, and potentially shaders to use for the game

Tooling

Version Control	GitHub
Project Management	GitHub Issues and Projects
Documentation	https://github.com/withastro/starlight , README
Test Framework	Unreal Engine Test Automation.
Linting and Formatting	Prettier
CI/CD	GitHub Actions
IDE	VS Code
Graphic Design	Lucid Charts
Others	N/A

Definition of Done (DoD)

- Functionality is complete
- Functionality passes test at an acceptable level
- Changes are merged to the main branch and tested against existing features
- No regressions, entire project functions to spec
- Documentation is updated
- Changes are noted and demoed for next stakeholder meeting
- Backlog updated

Release Cycle

- Update every successful pull request
- Automatically deploy to staging for every merge to main branch
- Deploy to production every release
- Release every three months
- Use semantic versioning MAJOR.minor.patch
 - Increment the minor version for new features
 - Increment the patch version for bug fixes
 - Increment the major version for breaking API changes

Environments

Environment	Infrastructure	Deployment	What is it for?	Monitoring
Production	Github Environment	Release	Sleeping well at night	Sentry
Staging (Test)	<u>Render</u> through CI/CD	PR	New unreleased features and integration tests	Sentry
Dev	Local (macOS and Windows)	Commit	Development and unit tests	N/A

