

# Asteroids Software Design Document

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## Requirements

### Mandatory

1. The player uses touch controls to aim and launch asteroids toward planets.
2. Asteroid path must be calculated depending on user aiming and amount the slingshot is pulled back.
3. Way to generate planetary system
4. The game must recognize a planet has been destroyed when hit.
5. A way to check if game/ level is finished.
6. Level progression interface to move through completed levels.
7. Cosmetic design of space, asteroids, and planets.
8. Store user scores and level progression.
9. Need something to stop turn/start turn when asteroid is finished traveling.
10. Should be able to run on the website.

### Optional

11. Asteroid physics could follow semi-realistic gravity.
12. Planets can vary in speed and size.
13. The difficulty can increase each level.
14. Special powerups can allow for gravity assisted shots or multiple asteroids at once.
15. Hitting a planet can give points.
16. Obstacles can appear for more complex levels.
17. Asteroid size can decrease as levels increase

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## Traceability Matrix

| SRS Requirement | High Level Game Diagram |  |  |
|-----------------|-------------------------|--|--|
| Req 1           |                         |  |  |
| Req 2           |                         |  |  |
| Req 3           |                         |  |  |
| Req 4           |                         |  |  |
| Req 5           |                         |  |  |
| Req 6           | F                       |  |  |
| Req 7           |                         |  |  |
| Req 8           | P                       |  |  |
| Req 9           |                         |  |  |
| Req 10          |                         |  |  |

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## Diagram

