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### **Overall Plan and Milestones**

Milestone 1: Drawing objects to the screen ✓  
Milestone 2: Class setup and hierarchy for overriding draw method (Custom sprites) ✓  
Milestone 3: Fully functional grid system, complete with instantiating objects ✓  
Milestone 4: Player movement and wall collision ✓  
Milestone 5: Reading/Writing Map layouts to the game manager  
Milestone 6: Allow the player to pick up collectables  
Milestone 7: Enemy collision and movement  
Milestone 8: Blackhole teleportation and collision  
Milestone 9: Start screen and GUI  
Milestone 10: Leaderboard system  
...  
Milestone n: Game fully functional and accurately implemented

What we intend to achieve by the halfway point:

- Full documentation of adjustments and modifications up to that point
- Ideally 25-50% of the milestones completed

Plan to reach these milestones:

Following the plan our team has constructed in phase one, we also plan on reaching each milestone incrementally one step at a time as each sequential milestone may build off another. It is also possible that we will work on up to two milestones at the same time if they are tasks that can be completed with lesser effort (1 person vs the entire group). We also agreed that we need to include JavaDoc comments so that we can each identify changes and understand each other's ideas/methodology in implementing the code.

*We will likely to run into roadblocks and issues where we will create new plans to reach later milestones however, at this point in time no further plans are necessary.*

### **Our Team's Approach**

Our approach is working bottom up and adding one feature at a time. After each feature implementation, we will have bug testing and this will be much more efficient in finding them, as compared to working on many features and hoping they work together. This will ensure the creation of a robust and bug-free product.

### **Adjustments & Modifications**

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state and justify the adjustments and modifications to the initial design of the project (shown in class diagrams and use cases from Phase 1)

- Original plan for tile/grid was to be 32x32, now we realize that is too large and have now decided to have map size be small on earlier levels and increasingly large on later levels (Ex. Level 1 - 6x6 and Level 5 - 14x12)

*No further adjustments or modifications as of the halfway submission.*

### **Management Process & Division of Roles and Responsibilities**

Similar to what we had originally intended in Phase 1, everyone in our group has and will be working on various features, as opposed to splitting everything up. So far we have made a satisfactory effort in following this idea but there are areas of improvement that can be made. Some areas to address are proper time management and fair work distribution. However, our work so far has not yet negatively impacted our group so we will continue to work together on each milestone/segment together instead of directly each completing a specific or individual task.

### **External Libraries Used**

- Processing
- Control P5 (GUI)

### **Measures Taken to Enhance Code Quality**

- Using JavaDoc commenting so that all users can identify what the code is doing Accurately
- Using version control effectively for code collaboration and history tracking
- Incremental refactoring as the project and code progresses

### **Biggest Challenges During This Phase**

Overall, a few of the biggest challenges we've faced (so far, as of the halfway deadline) was becoming adjusted to the processing library, since that was the library we decided to use for drawing sprites. We also struggled with github, making sure everyone could properly clone the repository, and push and pull to it with no issues.