**Phase III Source Project Report for Kingdomino: Team Domino Dynasty**

University of Maryland Global Campus

UMGC CMSC 495 6380 Capstone in Computer Science (2238)

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KINGDOMINO

PHASE III

PROJECT REPORT

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# Summary

Our team planned for Phase III to be short so that we could allocate more time to fixing our documentation. Still, we needed to commit to some of the changes we made in Phase II to our program, while also allowing ourself to be flexible for the new changes we decided to make in Phase III. As with the other phases, our team’s flexibility and dedication allowed us to stay on task and accomplish the goals we set for the application development portion of Phase III.

# Timeline & Schedule

For Phase III, our team completed 11 / 28 original group and individual tasks. There are 14 / 28 tasks that are currently in progress and deal only with documentation for our project. The remaining 3 tasks were scrapped from the task list. Below is a list of each of those tasks and the assignees. In particular, for the group tasks, those designated as “everyone” were done by everyone, whereas those designated as either “Framework Team” or “UI / UX Team” were done by the members of those teams. Individual tasks were completed by the assignee as shown.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **KINGDOMINO: PHASE 3 TASKS (25 SEP TO 11 OCT)** | | | | | |
| **BEAUTIFICATION** | | | | | |
| **#** | **Task** | | | **Assignee** | **Deadline** |
| **1 -** | **Submit Phase 2 Source** | | | EVERYONE | 27-Sep |
| **1.a** |  | Submit Phase 2 Source to UMGC assignment folder | | EVERYONE | 27-Sep |
| **1.b** |  | Submit Phase 2 report to UMGC message board | | Alan | 27-Sep |
|  |  |  |  |  |  |
| **2 -** | **Submit Phase 3 Source** | | | EVERYONE | 4-Oct |
| **2.a** |  | Submit Phase 3 Source to UMGC assignment folder | | EVERYONE | 4-Oct |
| **2.b** |  | Submit Phase 3 report to UMGC message board | | Alan | 4-Oct |
|  |  |  |  |  |  |
| **3 -** | **Submit Final Source** | | | EVERYONE | **11-Oct** |
| **3.a** |  | Submit Final Source to UMGC assignment folder | | EVERYONE | 11-Oct |
| **3.b** |  | Submit Phase 3 report to UMGC message board | | Alan | 11-Oct |
| **3.c** |  | Ensure final submission meets the following parameters | | EVERYONE | 11-Oct |
| **3.c.1** |  |  | Overview - including summary of individual contributions | EVERYONE | 11-Oct |
| **3.c.2** |  |  | Project Plan | EVERYONE | 11-Oct |
| **3.c.3** |  |  | Requirements Specification | EVERYONE | 11-Oct |
| **3.c.4** |  |  | System Specification | EVERYONE | 11-Oct |
| **3.c.5** |  |  | User's Guide | EVERYONE | 11-Oct |
| **3.c.6** |  |  | Test Plan and Results | EVERYONE | 11-Oct |
| **3.c.7** |  |  | Design and Alternate designs | EVERYONE | 11-Oct |
| **3.c.8** |  |  | Development History | EVERYONE | 11-Oct |
| **3.c.9** |  |  | Conclusions including lessons learned, design strengths, limitations and suggestions for future improvement | EVERYONE | 11-Oct |
| **3.c.10** |  |  | Ensure that program meets specifications identified in the grading rubric | EVERYONE | 11-Oct |
|  |  |  |  |  |  |
| **4 -** | **Additional animations and graphics** | | | Framework Team | 9-Oct |
| **~~4.a~~** |  | ~~Domino placement animation (smoke circle ring expanding from under domino?)~~ | | ~~Framework Team~~ | ~~9-Oct~~ |
| **~~4.b~~** |  | ~~Background images for each panel so it's not just a solid color background~~ | | ~~Framework Team~~ | ~~9-Oct~~ |
| **4.c** |  | Add credits screen to show info of project makers | | Framework Team | 9-Oct |
| **4.b** |  | Create blurry version of domino front faces for future animation | | Michael | 9-Oct |
|  |  |  |  |  |  |
| **5 -** | **Additional functionality** | | | Framework Team | 9-Oct |
| **~~5.a~~** |  | ~~Button to show "How to Play" on game play panel so player can refresh memory while playing game~~ | | ~~Framework Team~~ | ~~9-Oct~~ |
| **5.b** |  | Keyboard control? | | Framework Team | 9-Oct |

# Problems Encountered

Phase III for our team was a bit easier to develop for than Phase II, and thus we did not encounter as many issues that needed troubleshooting. Below is a list of problems that our team encountered during Phase III:

## Unexpected Bugs

By definition, a bug is some function of a program behaving in an unexpected way, or emergent unexpected behavior as the result of conflicting code. Our team expected to encounter some bugs in our application, with the plan to squash the bugs that were easier to tackle first before moving on to more difficult ones. We were lucky to only have had a few bugs during the development process. However, one of the bugs – a midi volume issue – escaped us, and we had no easy fix for it if we wanted to maintain the current sound system we were using. At some point, we had to decide whether we wanted to continue searching for bug solutions or focus on areas of the program that needed improvement.

# Re-evaluation of Decisions

As with the other two phases, Phase III came with its own unique problem sets and decision points. Below is a list of the decision re-evaluations we made during Phase III.

## Revamping the Game Design

When we started developing the framework, we agreed that there were certain game play elements in the original board game that would not translate well into the digital version we were developing. Thus, we collectively decided to shelve those features in favor of a lean adaptation. However, towards the end of Phase II, we realized that the part we had discarded contained much of the fun that might be derived from the gameplay. We had not fully understood until after a large number of playtest sessions. Nevertheless, we were able to swiftly make the changes and develop the game in a way that we thought would better capture the essence of the original board game.

## Ignore Some Minor Bugs

All throughout our development, we encountered some bugs here and there. However, we encountered the most bugs during Phase III of our development, noting that we had almost 50 Java classes that were interacting with each other. We were able to squash all bugs except for a midi audio volume related one. In order to save time and focus on other important parts of the project, we decided to ignore the audio bug as it only showed itself when trying to change the audio in the in-game settings. Ultimately, we think we made the right choice and we are very proud of the end product.

## Features on the Chopping Block

Before entering into Phase III, we understood that we would not have much time implementing features that we wanted before we needed to wrap things up and turn the project in. Nevertheless, that did not stop us from adding a number of additional features that we wanted to add to the timeline, only for us to end up not having time for them. By the end of Phase III, we cut at least three features from the project in order to give us more time to focus on other features and the documentation that would be required.