Team Assignment

Due Apr 25, 11:59 PM **NO LATE DUE DATES!**   Last updated: Mar 6, 2016 7:15 PM

Your team is to create a go-kart racing game in Unity 3D, along the lines of [Crash Team Racing](#) (game © Sony Computer Entertainment America; source code © Naughty Dog) or [Mario Kart 64](#) (© Nintendo).

General Game Notes

- The game must have an original name, theme, and artwork. (Artwork may be from other sources only if your team does not have a Blender artist assigned to it. If artwork from other sources is used, the sources of the artwork must be referenced in the about screen.)
- Music and sound effects may be original or from other sources, and they must be appropriate to the theme. The sources of the music and sound effects must be referenced in the about screen.
- The game has a 4:3 aspect ratio of a reasonable size, and the graphics must be of better resolution than those in *Crash Team Racing* and *Mario Kart 64*.
- There must be at last three avatars from which the player can choose.
- There must be at least three non-trivial track maps from which the player can choose.
- Opposing racers in the game are NPCs (non-player characters) with some AI abilities. The avatar in each opposing kart must be distinctive from one another and from the player's avatar.
- Appropriate HUD (Heads-Up Display) items should provide feedback during game play.

Control

- The game must be controllable by keyboard and by Xbox gamepad.
- Include a control to permit the player to escape game play mode.
- During a race, if you hit any of the antagonist cars somewhere around its fender areas, the car has a chance of spinning out; but so does the protagonist car! A car that spins out can get back into the race.

Game Modes

- Below is a list of game modes, and you may vary these to meet the particulars of your game and the needs of the player. You may wish to make each game mode (or some game modes) different scenes in the Unity project.

- *Initial mode* – A splash screen is displayed when the game is started and between plays. It must display the name of the game along with any image art, and other information you would like the player to see. Instruct the player on how to begin play, learn more about the game, and quit the game.
- *About mode* – Display the names of your team members, including the artist(s), along with other image art and information you wish to share about the game. Instruct the player on how to return to *Initial mode*.
- *Learn More mode* – Instruct the player on the goals of the game and how to control the kart during play. Permit the user to return to the game mode from which they came.
- *Quit mode* – Ask the player whether they really want to quit. If they answer affirmative, end the game. If they answer negative, return them to the mode from which they came.
- *Options mode* – Permit the player to specify options for the game; at the least, there should be an option to change the volumes of the music and sound effects (including muting them).
- *Start Play mode* – Permit the player to choose an avatar. You also may wish to permit them to choose a kart and other options. Each screen in this mode must include a *Back* button to return to the previous screen. The final (or only) screen must include a *Start Play* button. Once the *Start Play* button has been selected, the player should be given an on-screen countdown before play begins.
- *Game Play mode* – This is the actual game play.
- *Restart mode* – The player enters this from *Game Play mode* by pressing *Escape* on the keyboard or by pressing some particular button on the Xbox gamepad. Ask the player whether they would like to continue the game, restart the game, or quit the game. If the choice is continue the game, return them to *Game Play* mode as they left it; if the choice is restart, take the player to *Start Play mode*; if the choice is quit, take the player to *Quit mode*.
- *Game Over mode* – Displayed when the race is over. Display outcome information, and give the player the choice of playing again or quitting. If the choice is play again, take the player to *Start Play mode*; if the choice is quit, take the player to *Quit* mode.

Documentation
- Appropriate uses of comments, whitespace, and meaningful variable names in code are required, as would be expected in a senior/graduate-level course.
- Create a player's guide as a separate document. It describes your game and how to play it.

Grading Criteria
Scores will be calculated for your team's project approximately along the following dimensions.
- *A game that works* (50%) – The game should work well and without errors.

- *Theme, artwork, music, and sound* (25%) – Strive for a high level of creativity and unity among these assets.
- *Coding and documentation* (5%) – Your project must be coded and documented well, as would be expected in a senior/graduate-level course. The player's guide should be well-organized and useful.
- *Presentation* (10%) – Each Stillwater team will present, demonstrate, and answer questions about their project on **Tuesday, April 26**. Each Tulsa team will present, demonstrate, and answer questions about their project on **Thursday, April 28**.
- *Team participation* (10%) –This criterion is based on your active and useful participation in team meetings, decisions, and project outcome. Unlike the first four criteria, this criterion is assigned separately for each team member.
- *Team evaluation* (-15%) – Each team member is to evaluate individually each other team member on team participation, using a scale of 0 (very bad) to 100 (very good). Do not evaluate yourself. Avoid making "blanket" high or low evaluations; carefully consider how the other team members performed their assignments and contributed in other ways. Also, provide at least a paragraph for each team member to justify why you gave them the score you did. Unlike the first four criteria, this criterion is assigned separately for each team member. Notice the percentage for this criterion is negative; if you turn in a well-considered evaluation for each of your team members, you will get a score of 0%; if you turn in nothing, you will get a score of -15%; if you turn in a poorly-considered evaluation (e.g., no justification for scores), you will get a negative percentage between 0% and -15%.

Due Dates
- A ranked list of two preferred theme descriptions for your game is due no later than **11:59 PM CST on Friday, March 11**. (These should be labeled as 1 and 2 to indicate the team's first and second preferences, respectively.) This file must be placed in the project drop box folder, and themes will be assigned to teams on a first-come-first-served basis in an attempt to make sure each team has a unique theme. If a team turns in no preferences, one will be assigned to them, anyway. All decisions of the instructor are final.
- The Unity project (including references for the project assets) and the player's guide are due by **11:59 PM CDT on April 25**. LATE SUBMISSIONS WILL NOT BE ACCEPTED.
- The materials used in your presentation are due by 11:59 PM on the date of the presentation. LATE SUBMISSIONS WILL NOT BE ACCEPTED.
- Evaluation of your teammates is due by **11:59 PM CDT on April 29**. LATE SUBMISSIONS WILL NOT BE ACCEPTED.

Notes

- IMPORTANT: If you find the source of a similar Unity game online, it is considered <u>inappropriate</u> to use part or all of that code in your solution. This is to be <u>your team's</u> code.
- Reference the source of any code, artwork, and audio you use.
- The team contact person (and <u>only</u> that person) must submit the project, references for assets, and player's guide to the project drop box on D2L.
    - Before submitting the team project, make a copy of the project folder, Delete all except the *Assets* and *ProjectSettings* subfolders, and rename the folder as:
        team-name
    Zip the result into a file named:
        team-name_project.zip
    - The references to assets and the player's guide must be separate documents from the project zip file.
- The team contact person (and <u>only</u> that person) must submit the materials used for the project presentation to the project drop box on D2L. Zip these materials into a single file named:
    team-name_presentation.zip
- Each team member must submit her/his own evaluation of her/his teammates to the project drop box on D2L. The file must be a typed (not hand-written) PDF file named:
    lastName-firstName_evaluation.pdf