# Project Plan

# Submitted to**: Mr. George Peck**

# Project Manager**: William Wang**

Group Members: **Aditya Kotak, Rahul Sarathy**

# Date**: May 1, 2015**

Project Overview: The purpose of our project is to create a functional multiplayer Monopoly game with the option of adding AI opponents and human opponents. Players will interact with a GUI to see the board as well as the possible actions they can use.

Project Team: Aditya will be in charge of coding the functions of each space on the game and the gameboard. Moreover, he will also work on the AI. For the AI, we plan to create a very simple computer player who will keep buying property until it has no more money. Rahul will take care of testing our final project and making sure there are no more bugs. He will also work on the die method and plan how to incorporate buildings into the game. Finally, William will work on the GUI that the end user will see and will work on making sure overall the project works.

Challenges: The biggest challenge we will face is organization and execution. The nature of Monopoly is very complicated so we’re going to have a hard time to organize all the classes and write the code in a way that is not too cluttered and hard to understand. Documenting all of the code will also be difficult just because of the volume of code we have. Here are also some specific tasks we feel will be a challenge due to our inexperience:

* Creating a functional AI
* Creating a GUI to represent the board and possible tasks
* Correctly handling the properties and cash owned by each player
* Correctly handling interactions between players (trades, payments, mortgages)

# Major Tasks and Schedule:Here is a rough outline for what needs to be done for the project.

* Create project plan/detailed plan (Planning)
  + Week 1 and 2: Work on Project Plan assigned by Mr. Peck and also the Preliminary specification. Make sure that all methods and classes are listed out and create a shell for each class in eclipse.
* Declare all the necessary classes and interfaces with constructors (Infrastructure)
  + Week 3: Work on the 20 main classes/interfaces. The division of labor is in the chart below as to who is doing which class/interface.
* Create all necessary methods (Infrastructure)
  + Week 4: Continue to finish the classes/methods from above.
* Test all classes when finished (Testing)
  + Week 4: Rahul will run numerous test cases for the game and report back on bugs that he finds. In turn, William and Aditya will fix these bugs and ask Rahul for help if needed.
* Add GUI and AI
  + Week 5: Aditya works on the AI and William works on the GUI. Rahul continues testing and fixing bugs. In the end of the week, Rahul re-runs all the tests to make sure the final product is flawless.

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| Task(s) | When | Responsible |
| **General:** Infrastructure, GUI  **Classes:** GameBoard, Card (abstract), Chance, CommunityChest, MonopolyGame (main) | See above for rough timeline. | William |
| **General:** Testing  **Classes:** Building (abstract), House, Hotel, Player, Bank, Money, Die | See above for rough timeline. | Rahul |
| **General:** AI  **Classes:** ~~Space~~, ~~JailSpace, GoJailSpace, GoSpace~~, PropertySpace, ~~FreeSpace, TaxSpace~~ | See above for rough timeline. | Aditya |