- **Your product is effective to delivery the knowledge in computer science to the product users:**
  - **Yes**, this product is useful for teaching users the 01 Knapsack Problem and its solutions.
- **User friendly/appealing in terms of the following criteria:**
  - The landing page is attractive
    - **Yes**, the landing page will have features of popular high-tech websites, such as a navigation bar, a logo, and clear call to actions.
  - Users are be able to understand and play the puzzle game quickly.
    - **Yes**, users will have access to a tutorial page in order to understand the rules of the game and begin playing quickly.
  - Users can just jump in and start playing (trying out) the game immediately without the registration process.
    - **Yes**, users will be able to play the puzzle game without creating an account. Users will not have their data saved if they play without creating an account and logging in.
- **Your product should have the following functions:**
  - Users can register with a username and a password
    - **Yes**, users will be able to create an account with a unique username and password.
  - The performance of registered users are updated after each trial and can be displayed upon requests
    - **Yes**, registered users will have their performance tracked and updated after every game, which can be displayed.
  - Users can ask for hints and/or solutions.
    - **Yes**, users will be able to ask for hints. For this game, a hint will provide one item that is present in the solution.
  - Administration account
    - **Yes**, there will be administration accounts, which are created separately from player accounts.
      - Have all the functionality like the regular registered users.
      - Have additional privilege likes user account removals or password-reset.
- **Do you have a brute-force method as the comparison basis for the puzzle solver:**
  - **Yes**, it there will be a brute force method to the puzzle. It will iterate through every possible combination of items that fit within the backpack, and keep the set of items with the highest value as the solution.
- **Do you have a better algorithm than brute-force.**
  - **Yes**, there is a better algorithm than brute force. The Knapsack Problem can be solved with dynamic programming, where previous solution sets are used to find the optimal solution. This algorithm will be used to solve the puzzle, and can be presented to the user.

- **Explain if the puzzle is targeted at a single user or multiplayer, competitive or non-competitive.**
    - This game will be single user, and may be competitive. The user will be scored based on the correctness of their solution and the time it takes for them to complete the puzzle. This score can be displayed in a scoreboard, which users will be able to compare to each other.
- Explain how to deploy your product:
    - This application will be deployed using a combination of Heroku and Flask. Flask will be used in the development environment for the game logic, user interface, login and registration, and database. Heroku will be used in the staging and production environment of the deployment workflow, in order to be published as a web application. Heroku will also allow administrators to configure the environment in a secure way.