Design Doc

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1. Design History

Version 0.0.1: Devil physically present to place traps. Had to avoid the hero. Played out as an action game instead of a strategy game. Hero had no base HP, dmg. Physique was called Strength and did nothing. Perception was called Intelligence and did nothing. Wit was called Wisdom and was the same. Devil abilities didn’t exist. The items Door, Key, and Minion existed, nothing else. Minor Contracts didn’t exist, they were called I Owe You (IOUs) Combat was resolved using Warhammer combat mechanics.

2. Vision Statement

We of Team Faust are here to create a game that allows players to play as a devil and manipulate and annoy stereotypical heroes for fun.

2.1 Game logline

A 2D, Top Down, strategy game where you deviously manipulate heroes to relinquish their souls.

2.2 Gameplay synopsis

Devil’s Bargain is a strategic top down experience, where the player controls a nefarious character, known as a devil, and attempts to wrangle the soul out of a dungeon adventurer. In order to accomplish this goal, the player builds up the adventurer’s trust by assisting them when their need is great, while at the same time, utilizing sabotage and subterfuge to heighten the adventurer’s desperation; leading to an adventurer who is more willing to sell their soul to escape the dungeon with their life. Victory is achieved when the player successfully obtains the adventurer’s soul or in failure when the adventurer acquires the ‘final dungeon item’ and escapes.

2.3 Minimum Viable Product

1. A tutorial level and a level
2. A Hero – AI controlled character. The player needs to acquire his soul.
   a. Trust – How much the hero trusts the player. See fundamental gameplay section on how this works.
   b. Desperation – How desperate the hero is. See fundamental gameplay section on how this works.
   c. HP (determined by physique) – Health. Hero dies if this reaches zero. The player can’t get the hero’s soul and loses if this happens.
   d. Physique – Determines the hero’s level of physical fitness. Governs HP as well as their combat prowess and ability to avoid physically oriented traps.
   e. Perception – Determines the hero’s ability to detect hidden traps/passages and determines how far away they can ‘sense’ you place items.
   f. Wit - Determines the hero’s ability to negotiate with the player. Lower wit means a
higher chance of the hero accepting the player’s contracts.

3. A Devil (you)
   a. Minor Contract – A contract with lower requirements than the final contract. Used to
debilitate the hero by permanently removing one of his stat points. A number of Minor
Contracts are required before the Soul Contract may be formed.
   -Minor Contract (Physique)
   -Minor Contract (Perception)
   -Minor Contract (Wit)
   b. Soul Contract – Must be formed in order to complete the level. This contract has a
higher base threshold than the minor contracts, and also requires a certain number of
minor contracts to be formed in order to attempt one. The soul’s value increases with
the hero’s trust and desperation levels.

4. Items
   a. Trap – A trap that has a chance to damage the hero and raise desperation. Detection is
determined by the hero’s perception stat.
      -Basic Trap (Damage and desperation. Two charges. Perception negates)
      -Mimic (Guaranteed damage and desperation)
   b. Door – It’s a locked door. Requires a key to be opened.
   c. Goblin – The standard enemy. Goblins are available in different varieties and strength
levels.
   d. Key – Used to open a locked door.
   e. Final Chest – The hero will try to take the contents of this chest and escape the
dungeon.

5. Platform
   a. PC

3. Audience, Platform, and Marketing

Team Faust is aiming for a very specific target audience as will be described in section 3.1. Our
main goal in terms of platform is the PC.

For marketing, we will avoid the “CD box shipment” model and instead rely on Steam’s online
retail market.

3.1 Target Audience

High-school to College Age Core gamers in America and other English speaking countries
(there are no plans as of yet to translate the game into other languages). There is no particular
target gender demographic, as prototype play testing indicated appeal to both male and female
players. The game is intended to be easy to pick up, but difficult to master.

3.2 Platform

The game will be released for the PC. This was chosen because it will be programmed in the
XNA framework in order to reduce development risk (discussed later). Also, the development
group decided that the PC would offer the most intuitive control scheme.
3.3 System Requirements

Minimum requirements (Windows):
- 600 MHz processor
- 256 MB RAM
- 200 MB drive space
- DirectX 9.0c and Shader Model 2.0 compatible video card

Recommended requirements (Windows):
- 1 GHz processor
- 512 MB RAM
- 400 MB drive space
- DirectX 9.0c and Shader Model 2.0 compatible video card

Many modern PCs meet these system requirements, allowing a larger group of players access to this game.

3.4 Top Performers

A couple of other games within the same market include:

Diablo:
   Diablo is a hack-and-slash RPG that was released for the PC on November 30, 1996, and sold 2.5 million copies as of August 2001. A sequel, Diablo 2, was released on June 29, 2000.

Dungeon Keeper:
   Dungeon Keeper is an RTS PC game that was released on June 26, 1997. The game has the player build a dungeon from scratch with the goal of killing a visiting adventurer. Dungeon Keeper 2 was released in June 1999.

3.5 Feature comparison

Diablo II:
Diablo II is a hack-and-slash RPG where the player assumes the role of a adventurer and embarks on a adventure involving mass amounts of demon slaughtering and item finding. The gameplay serves as the archetype that we have based our hero’s adventure on. From the hero’s point of view, they are traversing dark dungeons filled with monstrous creatures in order to acquire loot.

The key difference between Diablo II and Devil’s Bargain is that the hero is handled by the AI. The player of Devil’s Bargain, instead of controlling the hero and hacking their way through the dungeon, takes the role of the devil and actively attempts to cause the peril of the hero. In summary, the hero’s adventure plays out like a simplified version of Diablo II, while the player manipulates the general events of the dungeon.

**Dungeon Keeper series:**
Dungeon Keeper is a strategy game wherein the player builds and manages a dungeon and protects it from adventurers seeking to plunder it of its riches and destroy the native dungeon inhabitants. The dungeon manipulation element of this game as well as the AI controlled hero is very similar to what we are seeking to accomplish in our game.

The key difference between Dungeon Keeper and our game is that we focus more on object placement and hero-player interaction rather than dungeon construction. In Devil’s Bargain, the player can place traps and monsters in key areas and lock doors instead of Dungeon Keeper’s method of actually constructing the dungeons. The strategy of our game is based more on subtle manipulation of the hero in a pre-existing dungeon in order to achieve goals, rather than Dungeon Keeper’s RTS-like strategy of directly building the dungeon from the ground up and managing resources to kill heroes.

3.6 Sales Expectations

The game may be released via Steam or another online game distributor. Initial plans are to release the game for free, but depending on the quality of the final product, the group may decide to add a charge. Quarterly estimates are uncertain due to the nature of the project, but roughly 500 copies per quarter would be within reason.

4. Legal Analysis

This game is copyright material of Team Faust, all rights reserved. Should we release the game for a nominal fee, a contract will be drafted about distribution of funds.

5. Gameplay

The player plays as the overlording devil that is in charge of liberating the souls of all the would be heroes that dare enter his dungeon.
5.1 Overview

Devil’s Bargain is a highly strategic game in real time where players deliberately change the layout of the dungeon level to get a desired outcome from the hero. The core mechanic of the game is the trust and desperation levels of the hero. Everything revolves around these two values. The other mechanics, such as the hero’s attributes (Health, Physique, Perception, and Wit), as well as the player’s various methods of manipulating the form and function of the dungeon, are simply built on top of our core mechanic. Hero and player interaction and minor contracts are more mechanics that also tie into our main mechanic.

Trust is the hero’s trust level in the player which is raised by helping said hero. Common methods of helping the hero include healing them when they are severely wounded, telling them about the location of items that may aid them, offering to get rid of obstacles, etc. Desperation is a measure of how willing the hero is to get out of the dungeon by any means necessary. The player raises this by manipulating the dungeon in ways that cause grief to the hero. The hero can grow more desperate by stepping on traps or encountering monsters while severely wounded. The player causes these events by funneling the hero through paths of his choosing via interaction with the hero or placing locked doors. The player can also strategically place monsters or traps themselves to raise the desperation levels of the hero.

The hero’s primary attributes are Health, Physique, Perception, and Wit. Health is a numerical representation of how the hero feels. If it reaches zero, the hero dies. Physique is a measure of how strong the hero is. It allows the hero to perform feats such as jumping across chasms or dealing damage. Perception is the hero’s ability to perceive the world and figure out its mechanics. It determines whether or not the hero notices hidden passageways or detects traps. Finally, wit governs the ability of the hero to barter with the player. The higher the wit, the less likely the hero will be swayed by the player’s offers.

5.2 Gameplay description

Interaction between the hero and the player can occur in one of two ways. The first way is when the hero encounters a situation they do not know how to deal with. This will cause the hero to ‘call’ the player for help. The second way is dependent on the player. At any given moment during the run of the game, the player has the option of communicating with the hero. In the first case, the hero will ask something of the player. The player has the option of giving them what they desire or bartering for it. In the second case, the player can choose to freely help the player with items, information, or barter for it.

Contracts encompass the bartering between the hero and the player. The common case is the hero wants something and the player forms a contract around that item. For instance, the hero wants a key for a locked door, so the player offers to give them a key if the hero gives up his wit point. Occasionally, the initial deal will not succeed and the hero will counter-offer with something else. For instance, the hero might not be inclined to give up his wit point in the
aforementioned scenario, so he instead offers a physique point. It is up to the player whether or not to take the new deal or leave. An exception to this general rule is the ‘final soul contract’. At this point, the player is essentially attempting to end the game and asks for the hero’s soul. It is difficult to form, but if completed successfully, results in victory for the player.

The player attempts to secure the soul of the hero by helping them out, which raises trust, while simultaneously making the hero’s adventure more fraught with peril in order to increase desperation. Once the values are at a sufficiently high level, the player can attempt to form the final soul contract with the hero and win the game. If the hero escapes the dungeon or dies, the player will have lost.

### 5.3 Controls

The mouse (movement and clicking) will be used as the primary method of interaction with the game.

**Mouse - Item Interaction**

The player will use the mouse to select items from the interface tab. Once selected, an item can be placed on the map where permitted. A visual clue will be given to the player to inform them of their current item choice.

**Mouse - Hero Interaction**

The mouse will also be used in interactions with the AI controlled hero character. During dialogue with the hero, the player will make decisions and confirm deals with mouse clicks.

**Mouse - Interface Interaction**

The player will also use the mouse to interact with the interface screen. Clicking on the various buttons and icons on the interface screen will cause relevant responses from the game.

### 5.3.1 Interfaces
The sample interface screen (pictured above) is the main window through which the player experiences the game. The center of the interface screen will be the game map, which is where the main part of the gameplay will unfold. The player will see the events of the dungeon unfold in real time. The game map area will also facilitate placing items and scrolling. Clicking on the Map or Inventory tabs on the bottom right will open up the dungeon mini-map and the player’s devil tools in the bottom center window. The Hero tab will be used to initiate conversations and deals with the hero character. On the bottom left, the hero’s picture will be displayed. It will change depending on the Trust and Desperation levels of the hero, giving the player visual clues as to the mental level of the hero. Above the hero picture will be three buttons to control the flow of time. The player will be able to pause, set game speed to normal, or set game speed to fast. These will be used to create a good sense of ‘flow’. (For example, when a hero is walking to a destination with no obstacles in the way, a player may wish to set speed to fast and skip ahead to more exciting segments). The menu button in the top left can be clicked to bring up the menu of the game, allowing for such things as exiting the game.
5.3.2 Rules

DEVIL RULES:

Devil Abilities:
Teleport to Hero:
- The player appears next to the hero and engages in dialogue (see: Devil Dialogue Options)
- Limited uses (level dependent)
- Teleports can also be used to activate and deactivate levers and other such items.
- Can only be used ingame (not pregame/dialogue)
Heal Hero:
- Infinite uses (can only use it once per interaction with hero)
- Hero must have summoned player/player teleported to him
- Player heals the hero to max hp.
- Can form a contract around this ability
- Does not modify Trust or Desperation intrinsically
- If done for free, +1 trust

Help Hero Kill Threat:
- Infinite uses (can only use it once per interaction with hero)
- Kills 1 monster
- Can form a contract around this ability
- Lowers Desperation by 1
- If done for free, +1 Trust in addition to above rules

Minor Contract:
To form a Minor Contract: DC12 | d20 + trust + desperation + successful contracts - wit

If player fails the roll by 10 or less: Counter-offer (hero offers highest stat that player didn’t select or an item in his inventory)
If player fails by more than 10: No deal.

On a successful Minor Contract, player chooses a stat point to take away from the hero. The hero loses this stat point permanently.

Successful Contracts count raised by 1.

Soul Contract:
To form the Soul Contract: DC15 | d20 + trust + desperation + ((successful contracts/2)floored) - (2x wit) [we will try to get rid of the randomness of the soul contract]
If player fails the roll: No deal, -1 Trust
On a Successful Soul Contract, player is victorious.

Devil Dialogue Options:
Give Hero Item:
- Infinite uses (can only use it once per interaction with hero)
- Can only give the hero an item he needs (player cannot gift items he doesn’t need)
- Cannot ‘gift’ goblins and other such nonsense
- Trust +1 for gift action

Tell Information:
- Infinite uses (can only use it once per interaction with hero)
- Can only tell hero about significant objects he has not seen yet
- Significant objects: key, potion, monster, lever, trap, chest
- Trust +1 when hero confirms truth
- Trust -1 when hero finds out he’s been duped

Form Contract:
ITEM RULES:

Tools
(see: 5.6: Items)

EvilBay:
(see: 5.8.1 Features)

ADVENTURER RULES

Physique
The measurement of the adventurer's strength. The hero's max hp, damage, damage reduction, and physical tests all revolve around physique.

Max HP = Base HP + (Physique * 3)
Damage = Base damage + (physique / 2)~
Damage Reduction = (physique / 2) + (perception / 2)~
Physique Save = physique * 25%

Note: Items with a tilda ~ mean the ceiling of the division is taken.

Perception
How well the adventurer can perceive his environment. The hero's trap detection, hidden tunnel/passage detection, damage reduction, and null radius all revolve around perception.

Trap Detection = perception * 25%
Hidden Detection = perception * 10% every 10 seconds
Damage Reduction = (physique / 2) + (perception / 2)~
Null Radius = perception

Note: Items with a tilda ~ mean the ceiling of the division is taken.
Note: Null Radius is the circle area around the hero in which the player cannot deploy objects or be building them. If the player is caught deploying an item, player loses the item and -1 trust.

Wit
The adventurer's bargaining skills. This stat directly counters the player's ability to form minor contracts and soul contracts with the adventurer.

Minor Contract: DC12 | d20 + trust + desperation + successful contracts - wit

Soul Contract: DC15 | d20 + trust + desperation + ((successful contracts/2)floored) - (2x wit)

Trust
+ Give hero info about an item in the dungeon (+1 trust when hero finds item)
+ Help hero by killing monster for free (+1 trust, -1 desperation)
+ Gift (+1 trust)
- Lying (-1 trust)
- Fail Soul Contract (-1 trust)
- Get caught setting up item (-1 trust, lose item)

**Desperation**
+ Hero is ambushed by a trap (+1 desperation, -1 hp)
+ If he is at critical hp and runs into something that can hurt him (+1 desperation)
- Help hero by killing monster for free (-1 desperation, +1 trust)
- [something about time elapsed without encountering anything]

**THE START UP PHASE (PRE-GAME)**

Before the hero arrives at your dungeon, the player will have a number of pregame moves to optimize your dungeon. Players will gain access to their pregame inventory and each item they use in that inventory counts as a pregame move.

Players do not need to use up all pregame moves if they like the current placement and layout of the dungeons.

Once the player is finished with the start up phase, the hero arrives at the dungeon, ignorant of the perils that lie in store.

**MISCELLANEOUS RULES**

Special Rules:
- If Trust - Desperation is >= 4, bravado behavior in effect (He will be brash)
- If Desperation - Trust is >= 4, flee dungeon behavior in effect (self explanatory)
- Soul points are gained when performing special actions with or to the hero. Some of these actions include:
  i) Gain Trust

**5.3.3 Scoring/winning conditions**

The winning condition is the acquisition of the adventurer's soul.

The lose conditions are when the hero escapes the dungeon with the final chest or when the hero dies. The hero can die by taking too much damage from minions and traps, and the hero can kill himself if he gets stuck in the dungeon even after he calls upon the player for help.

**5.4 Going beyond the MVP**

1. More Items – Self-explanatory; include more items to give the player more options and experimentation, in order to keep the player invested in the game to play more.

2. Devil Abilities – Abilities that the Devil can use as often as desired, but generally have
drawbacks. Healing the hero is the most commonly used Devil power.

2a) Skill Tree - Allow the player to customize their experience, using soul points to level up skills in a specific gameplay area that the player likes to focus on, such as being a Trap specialist
2b) Spells - Give the devil cast-able abilities at the cost of mana that allow for more variable levels of progression. An example of a spell could be Bloodlust, which would increase the attack and movement speed of a minion.

3. EvilBay – An item shop that allows the player to purchase additional items to use in a level. The player uses soul points as currency for these transactions. Soul points are determined by the value of the souls the player has acquired.

4. More Levels – For more variety and longer gameplay
4a) Puzzles - Dungeons have puzzles for heroes to solve. Player can set parameters of puzzles to make it interesting. An example would be a simple lever puzzle; if the hero (through AI) picks the correct one, he proceeds. If he picks the wrong lever, whatever the player selected as punishment will happen (ie. poison gas is emitted).

5. Level Editor – Allows the development team to produce new levels quickly. Can also be included to allow player designed dungeons.

6. Hero Parties – Multiple heroes in a dungeon at once. They may act cooperatively or competitively, but the player ideally wants to claim all of their souls.

7. Competing Devils – Multiple devils competing to form a soul contract with the hero(es) first.
7a) Multiplayer - Each player controls their own devil to tackle an extremely difficult hero(es) to try and collect their soul. This creates a dynamic gameplay element where players will have to balance working together to get the hero desperate, and then undercutting/backstabbing each other so that the hero will form a contract with them.

8. Heavy AI Enemies – Powerful enemies with more sophisticated AI. They would serve as boss monsters for the hero to fight.

9. Plot - A rich and engaging story that combines the levels into a cohesive narrative that will cause the player to get invested and motivated to continue playing.

10. Counter Offer System – Allows the hero to decline the player’s offer and replace it with their own.

5.5 Levels

Levels in Devil’s Bargain will be constructed in a grid-like fashion, where tile sets are used to create the look of the dungeon. Levels will consist of basic elements, such as doors, choke points, rooms, etc. The appearance of each level will depend on the locale; for example, a level that occurs in a cave will look have rough looking terrain with a stone texture, whilst a level that occurs in a dungeon will have more man-made looking textures and less natural than the cave.

In addition, levels will contain forks, puzzles, chests, and other objects/obstacles for the hero to solve/get past through use of its AI. The player will also be able to rig parts of the dungeon to behave the way they feel is optimal to increase the hero's desperation. This dungeon
manipulation can vary from being minuscule (relocating a chest or adding a door) to being significant (cutting off a pathway, forcing the hero to go a different route once they hit a dead end).

5.6 Items

Traps:


e) Mimic - Places a mimic at desired position. Build Time: 5 seconds. Hero can never detect that it is a trap. Results in an automatic desperation increase for the hero.

Minions:
See Section 6.2.2.1 Monsters

Miscellaneous:

f) Door – It’s a locked door. Requires a key to be opened. Build Time: 5 seconds. Cannot be placed on top of other objects.

g) Key – Places a key at desired position. Used to open locked doors and chests. One time use. Build Time: 1 second. Can be gifted and bargained.

h) Move Item – Allows the Devil to move an item from one location to another. Instantaneous. Cannot be used on the final chest.

i) Collapse Tunnel – Blows up and renders the square in which you placed it impassable terrain. All adjacent squares which were destroyed in this way are also considered impassable. Build Time: 10 seconds.

j) Health Potion (Minor) – Places a health potion (minor) at desired position. Build Time: 1 second. Can be gifted and bargained. Heals 2 * physique hp. One time use. If you are caught placing this item, desperation decreases and trust stays the same. You still lose the item, but the item is instead placed in the hero’s inventory.

k) Health Potion (Major) – Places a health potion (major) at desired position. Build Time: 1 second. Can be gifted and bargained. Fully heals hero. One time use. If you are caught placing this item, desperation decreases and trust stays the same. You still lose the item, but the item is instead placed in the hero’s inventory.
Level Items:

l) Chest – May contain something inside. Can use pregame moves on it and the Move Item on it during regular game time.

m) Fire Statue (Trap) – Never runs out of charges. Trap radius is 5 tiles. Comes with a lever somewhere to deactivate it. Perception negates. Can use pregame moves or the Move Item to move the statue or the lever.

n) Lever – Used to activate/deactivate traps - level dependant. Can also be used to unlock/lock doors. Can use pregame moves on it and the Move Item.

o) Drawbridge – Connects two points of a dungeon that would otherwise be disjoint. Usually tied to a lever to lower/raise the drawbridge. Cannot be moved.

p) Final Chest – The artifact that the hero wants to leave with. Cannot use pregame moves on it and the Move Item. You lose if the hero manages to escape the dungeon with this item.

EvilBay:

EvilBay can be used to purchase items in game at the expense of soul points.
(see: 5.3.2: EvilBay)
5.7 Flowchart

5.8 Editor

Level Editor: We will develop a level editor to help us quickly design interesting levels and easily change designs. The editor interface will consist of a blank grid where we can drag and drop tiles and side panel with all the map tiles. We will be able to select a certain tile and place instances of these tiles on the grid in a painting motion. We will be able to scale the size of the grid to create different size levels.

Character Editor: We will develop a hero editor where we can create heroes and set their stats. It will consist panel of all the stats and spinner to manipulate the stats. It will then be able to save all the data out into a file.

5.8.1 Features
**EvilBay:**

The EvilBay is a shop that allows the player to buy items if they run out of tools to make the hero give up his soul.

**Perk Trees:**

Upon the completion of each level the player is given a set number of experience points. The experience points gained for each level is set. Then between each level the player is then able to spend these points on perks. These perks are contained in a number of perk trees. Each perk tree contains a variable number of perk nodes and direction based connections between the nodes. Each node has a specific cost of experience points that must be spent to unlock that perk. Each perk node, other than the root, cannot be unlocked until each node with a connection pointing to that node has been unlocked as well.

List of Trees

- **Contract:** a tree based around perks that increase the players ability to make contracts.
  - Increase the ease of making contracts with the hero.
  - Increase the effect of minor contracts.
- **Trap:** a tree based around increasing the effectiveness of traps.
  - Increase effectiveness of traps.
  - Give access to unique traps for the player to use.
- **Monster:** a tree based around increasing the effectiveness of monsters.
  - Increase the power of monsters within the dungeon.
  - Give access to unique monsters for the player to use.
- **General Items:** a tree based on general item effectiveness
  - Increase number of items the player receiver.
  - Gives access to unique items.
  - Increases the ability to place items without the hero noticing.
- **Devil Powers:** a tree based around giving the player additional and powered up versions of his or her devil powers.
  - Access to additional devil powers.
  - Increased power of devil powers.

---

**5.8.2 Details**

**EvilBay:**

During the course of each level the player will obtain soul points to spend during that level. These soul points are accumulated as trust is gained with the hero. The player then may open the shop by clicking on the shop button on the HUD. The game is then paused the the player is given a shop window in which they may purchase items to add to their inventory. Each item purchased has a price in soul points which are subtracted from the player’s collection upon each
successful transaction. The player may not go into soul point debt. Upon the completion of each level the number of soul points obtained by the player is reset. Each level will have their own set of shop items in which the player may purchase.

**Perk Trees:**

The Perk Tree will be represented as an n-way tree, in which the current node contains the name of the perk, its effects, and a list of all of its prerequisites (which can be any number of nodes). A node within this tree is valid for perk selection if the list of prerequisites have already been purchased.

Here is an example from Civilization:

![Perk Tree Example](image)

### 5.9 Playthrough

This is the playthrough of the tutorial level. Some of the events won't happen in game as this level is meant to train the player to be self sufficient later on.
Game begins. On the right of the HUD there are three buttons: “Toggle Mini-map”, “Inventory”, and “Go to Hero”. Orange piece represents mouse. Left figure is the player, right figure is the Demon Teacher.

Dialogue Box pops up.
“Demon Teacher: Congratulations newbie. Now you’re ready to steal the soul of some poor, unsuspecting, human. Since this is your first time, I'll be here to walk you through the whole process. Ah look here comes a human now.”
“Demon Teacher: Before that human shows up, lets make this dungeon a bit more challenging to this wannabe hero. First, select your inventory and select a door.”

Player moves mouse over to the inventory and another box appears with the items the player has available.
Player moves mouse over the door icon, and a small pop-up tells him that this is a door.

“Demon Teacher: For now, place this door where I tell you to. In the future, you’ll be able to place these items from your inventory anywhere you want. But right now, we can’t have you
An icon appears, telling the player where to place the door.
Player places the door down.

“Demon Teacher: Good. Setting up the dungeon in your favor before the human enters will always give you the advantage. Now he's almost here. I'll be instructing your from the shadows.”

Both the player's character and the Demon Teacher disappear.

The hero walks to the entrance of the dungeon.

“Baldwin: Here I am at the dungeon of the great Castle Tutor-ial. In here is a great treasure, that will make me the greatest of all the heroes out there.”
“Demon Teacher: These puny humans are always so preoccupied with their delusions of grandeur. It's time, why don't you introduce yourself?”

The player's character appears next to the hero.

“Baldwin: Who are you? Are you friend or are you foe?”
“Player: Hello there, I am a friend. A powerful one who can help you traverse the dangers that lie ahead.”

“Demon Teacher: Good, these humans will often foolishly trust anyone who aids them in whatever quest they’re on. In order for us demons to take their souls, we need to create a bond of trust. In your inventory there is a key to the door place earlier. Give it to the human to start building his trust.”
A dialogue tree appears with blank spaces that contain drop down menus.

“Player: Let me help by _____________ you ______________.”

Player clicks on the first blank and there are two options presented: “giving” and “telling”. The player’s mouse is on the “giving” option.
Player scrolls over to next blank.

Player clicks on the second blank and another drop menu appears that with the options "A key" and "a potion".
Player has completed his dialogue tree that reads out:
“Player: Let me help you by giving you a key.”

“Baldwin: Thank you friend.”
Dialogue window disappears and screen scrolls up to follow the hero. A word bubble appears over the hero that reads: "What a nice fellow."

The hero opens the door and encounters a goblin. Dialogue window appears again.

"Demon Teacher: Seems our human has engaged a goblin. Humans often have certain skills that will help them in certain situations. For combat, a human's physique will determine how strong they are while their perception will help them dodge attacks. To see these qualities, just move your cursor over the human."
Dialogue window disappears. Player moves mouse cursor over the hero and sees his stats. Box says: “Baldwin
Phys: 3
Per: 3
Wit: 3”
Baldwin and the goblin are fighting.

Goblin disappears. The portrait of the hero on the left has changed to reflect his current HP. A word bubble appears over Baldwin saying: “That was too close.”
Dialogue window appears again.
“Demon Teacher: It seems our hero defeated the goblin, but not without some scratches. Situations like being injured will raise a human's desperation. The more desperate they are, the more willing they will be to call upon us. Pay attention to what a human is saying to himself, it can reveal a lot about their trust and desperation.”
Note: Color change has no significance, I ran out of yellow paper.

“Demon Teacher: Also, pay attention to this left hand image. The human's portrait will tell you what kind of shape he is in. If the human dies, then we can't take his soul, but if he's not desperate enough, he won't be willing to make deals with you.”

“Demon Teacher: Also, notice how his soul says 'Pure' right now? He won't make a deal with us until you make his soul....more open to new ideas. If he trusts you, and is desperate enough, his soul will eventually be tainted. When that happens, you can start making contracts with him.”
Baldwin moves over to a chest and kinds a key. A word bubble appears over Baldwin saying: “Ooh, this should help.”

“Demon Teacher: When humans find things that can help them, their desperation will decrease. You can offset this by letting them know about these items before they discover them to build more trust. However, humans can easily become dependent and if they have too much trust in you, they will begin to rely on you too much. If that happens, anything less than being their servant will cause them to trust you less.”

“Demon Teacher: Likewise, if the human becomes too desperate, they might just give up their quest and flee before their soul is ready. If that happens, then we can’t take it. You need to find a balance between trust and desperation, without going overboard too quickly.”
Dialogue box disappears. Baldwin opens the next door and keeps walking.

A word bubble appears over Baldwin reading: “Ah, a trap!”
His left-hand portrait has the soul status change from “pure” to “Tainted”.

37
Dialogue window appears again.

“Demon Teacher: A human’s perception also alerts them to traps. This human apparently wasn’t watching where he was walking or he would have seen that trap he just triggered.

This trap did, however, make this human desperate enough to start making contracting with you. Next time he needs help, make sure you take something of his.”

Dialogue window disappears. Baldwin travels left and discovers a locked door.
Baldwin turns around and heads for the other door.

Baldwin approaches the other door. A word bubble appears reading: “A door without a key
Another word bubble appears reading: “Friend, are you there?”

“Demon Teacher: Ah, the human calls you? When he does this he creates a pathway that will allow you to directly teleport to him. Now let's see what he wants by double clicking on him.”

Player moves mouse over to the player and double-clicks on him.
Player character appears before Baldwin. Baldwin asks the player “Can you help me get through this door?”

“Demon Teacher: So he wants your help, huh? Well then, why don't you ask him to make a deal? Select Make Contract.”
The dialogue box opens with four buttons: “Tell information”, “Give Gift”, “Make Contract”, “Leave”.

Player moves mouse to “Make Contract” and selects it.
A contract scroll unravels in front of everything on the screen. The contract has lots of text on it but is ultimately worded to say: “I'll give you __________ for ______________.”

Player moves mouse over to the first blank and selects it.
The player's inventory opens revealing just one item.

Dialogue box opens up.
“Demon Teacher: I've given you the “move item” item. With this you can move almost anything within the dungeon from one place to another. Two of the exceptions is the human himself and the treasure he seeks. For now, offer to move that door out of the way for him.”
Player selects the “move item” item.

The first blank in the contract is now filled, rewording the contract to say “I will move something for ________”. The player moves mouse to second blank.
This opens up a new window called “Inventory – Baldwin the Hero”. In it are three boxes labeled “PHY”, “PER”, and “WIT”.

A new dialogue window opens up.

“Demon Teacher: This is the human's inventory. Here you can take an item or attribute from him in contracts. You already know what his physique and perception do, but see his wit? The more wit a mortal has, the more likely he will try to counter your contract for something less detrimental to him. Removing his wit is essential for making contracts, but is some situations, removing his other attributes will also be useful. Now, let's offer to move that door for him in exchange for some wit.”
The player than moves the mouse over to select WIT.

Now both blanks are filled for the contract to read: “I'll move something for some wit”
A prompt appears to make sure the player is sure about this decision. Player can select “accept” or “deny”. The player chooses “accept”.

A word bubble appears saying “Contract Complete!”
“Demon Teacher: Good job, now lets move that door. Once again, place it where I tell you.”
The screen scrolls down to reveal the highlighted spot for the player to put the door.

“Demon Teacher: Click on the door and move it to the highlighted space”.
The player places the door on highlighted spot. A dialogue window appears.
“Demon Teacher: This should give the human some trouble later on. Remember, when placing items in the dungeon, try to do so out of his view. If these mortals see you purposely making their lives harder, they'll lose a lot of trust in you.”

Screen scrolls over to show the player a secret passage.

“Demon Teacher: While we're at it, let's tell him about this secret passage. It will build some trust as well as prove useful to us.”
Player clicks on “Tell information”.

Prompt appears instructing the player telling him to select a space to tell Baldwin about.
Another dialogue box appears.

“Demon Teacher: Now click on the secret passage.”

The player moves their mouse over the secret passage.
“Demon Teacher: His trust should rise from that, but it also should lead him right into our trap. When telling these mortals information, you can always lie. Lying can be fun and is essential to manipulating lesser-beings.”

“Demon Teacher: Now select 'leave' and watch things unfold.”
Player selects “Leave”.

Baldwin walks forward with a word bubble that says: “How, helpful.”
There is a word bubble appears over Baldwin that says: “I finally found it.”

Dialogue window opens.

“Demon Teacher: Now that he has the treasure, we need to secure his soul before he leaves.”

Baldwin then heads back the path that he has already explored only to find that there is a door where there wasn't a door before.
Baldwin goes to where the player has told him where the secret passage was.

Baldwin travels through the secret passage.
A dialogue window pops up.

“Demon Teacher: Now complete the plan. Select the 'collapse tunnel' item I've placed in your inventory and select the secret passage. This should trap him and make him more desperate.”

The player selects their inventory.
The inventory opens up, and now there is a “Collapse Tunnel” item. The player selects it.

The player selects which tunnel to collapse and it does.
Baldwin sees the door and knows that he is trapped.

Baldwin call for the player again.
The dialogue box opens up with Baldwin asking for help.

“Demon Teacher: You need to make at least two contracts before you can steal his soul. So give him a key for some wit, then the next time you can make a contract, you can take his soul.”
Player selects make contract.

The contract appears again. Player selects the first blank.
The player finds a key in their inventory and selects it.

The contract now reads: “I will give a key for____________.” The player selects the second blank.
The player selects “WIT”.

Player is asked if they would like to make this deal. Player selects “Confirm”.
A pop-up bubble that says “Contract Complete” appears and the player is brought back to the beginning of their dialogue options. The player selects “leave”. Baldwin’s portrait now says “Soul: Corrupted”, indicating the final contract can be made.

Baldwin opens the door and walks through.
A word bubble appears as Baldwin approaches the same door saying: “AHHHHHHHH!!”

Baldwin calls upon the player again.
Player's dialogue tree opens up.

Player selects “Make Contract”.
The contract appears.

"Demon Teacher: Don't bother offering anything. At this point, the human just wants to get out. Just say you want his soul."
Player selects second blank.

Baldwin’s inventory opens up, and his soul has been added as being available.
A prompt appears asking of the player is sure to make this deal.

Baldwin is teleported to safety and a pop up indicates that his soul has been taken.
“Demon Teacher: Congratulations! You’ve taken the soul of the lesser-being. You now know everything you need to know to start supplying souls to the underworld. You have learned well.”

6. Game Characters

Within the world of Algornia there are many different creatures and races. Within each of these creatures is a soul that gives them the power of emotions, but these souls are great sources of power and the race of devils has the power to manipulate and control them.

6.1 Character design

The art will conform to a dark yet humorous feel. See Section 8 - 8.5 for concept art on characters and monsters.

In-game art will still conform to the concept art’s feel of ‘dark yet humorous’. In addition, the in-game art will employ art techniques that Marvel comics use. Among these are hard contour lines and line art in general. The art will be pixel based and viewed top-down.

Similar art styles from games below:
6.2 Character Types
In Devil’s Bargain, there is only one player character and that character is the devil Nalden. Everything else is an NPC. Those NPCs can be those that aid you in your quest to ‘liberate’ souls from fallen heroes, those that hinder you from your objective, or the heroes themselves.

6.2.1 Player Character

The Devil

Your main and only player character in Devil’s Bargain is the eponymous devil. As this character you will be able to perform tasks that hinder and manipulate your opponent both directly and indirectly. He is the main vehicle of commands in game play and does not participate in direct movement or combat.

6.2.2 NPCs

Heroes

The characters that fall under the Hero type are the player character’s main opponents in the game and the core of the game play. These characters all possess the attributes of physique (which determines strength of attack), wit (the hero’s skill in countering your contracts and machinations), perception (how well the player can perceive his environment to avoid traps and find treasure) and health points.

They also begin the game with the addition of two stats that begin at zero, trust (the increase of which will make the hero more easily believe what you tell him or her), and desperation (the stat that determines how willing the hero is to accept your aid regardless of how suspicious it might be).

The hero also may have skills at their disposal. These skills are class specific which will aid them in escaping with the final chest and make your life harder.

<table>
<thead>
<tr>
<th>Hero Sub Types</th>
<th>Description</th>
<th>Attack Range</th>
<th>Weapon/ Mode of Attacking</th>
<th>Typical Stat Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warrior</td>
<td>A character type that focuses with attacking with a sword and is straightforward in his movements and motivations.</td>
<td>Close Range</td>
<td>Sword</td>
<td>Physique: HIGH Wit: LOW Perception: MID HP: MID</td>
</tr>
<tr>
<td>Character Type</td>
<td>Description</td>
<td>Close Range</td>
<td>Really Big Sword</td>
<td>Physique:</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Traditional JRPG Hero</td>
<td>A character type that typically aims to destroy and seek out any enemy in the vicinity and activate and investigate everything regardless of how obvious a trap it might be.</td>
<td>Close Range</td>
<td>Really Big Sword</td>
<td>Physique: HIGH</td>
</tr>
<tr>
<td>Rogue</td>
<td>A character type that prefers to avoid confrontation with enemies if possible and focuses on investigating available items and prizes in the dungeon.</td>
<td>Close Range</td>
<td>Twin Daggers</td>
<td>Physique: LOW</td>
</tr>
<tr>
<td>Magical Girl</td>
<td>A character type that moves to find the featured goal as quickly as possible but stops to fight monsters only if confronted.</td>
<td>Close Range</td>
<td>Magic and Magic Staff</td>
<td>Physique: MID</td>
</tr>
<tr>
<td>Wizard</td>
<td>A character type that tends to try to avoid every trap and kill every monster.</td>
<td>Close Range</td>
<td>Magic and Magic Staff</td>
<td>Physique: LOW</td>
</tr>
<tr>
<td>Ranger</td>
<td>A character type that balances exploration and finding a straight route to the goal.</td>
<td>Close Range</td>
<td>Crossbow and short sword</td>
<td>Physique: MID</td>
</tr>
<tr>
<td>Teenage Chosen One</td>
<td>A character type that refuses to fight any monster at a lower level than a monster the character has</td>
<td>Close Range</td>
<td>Incredibly shiny sword</td>
<td>Physique: HIGH</td>
</tr>
<tr>
<td>Monster Type</td>
<td>Descriptions and Behavior</td>
<td>Effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------</td>
<td>---------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monk</td>
<td>A character type that will wrestle anything in his path by means of fighting.</td>
<td>Close Range</td>
<td>Wrestling</td>
<td>Physique: HIGH Wit: MID Perception: HIGH HP: MID</td>
</tr>
<tr>
<td>Berserker</td>
<td>A character type that typically attempts to reach the goal un molested but instead switches to actively seeking out and fighting every enemy monster possible if his health falls below half.</td>
<td>Close Range</td>
<td>Giant Axe</td>
<td>Physique: HIGH Wit: LOW Perception: LOW HP: HIGH</td>
</tr>
<tr>
<td>Bard</td>
<td>A character that is completely erratic in all his movements, choosing to fight and explore at random.</td>
<td>Close Range Long Range</td>
<td>Magical Lute of Magic and Whimsy</td>
<td>Physique: LOW Wit: HIGH Perception: HIGH HP: MID</td>
</tr>
<tr>
<td>Joe Hero</td>
<td>A character that is woefully average and typical in his movements, whether. If the monster is weaker he will fight, if it is stronger he will leave. He moves towards the left.</td>
<td>Close Range</td>
<td>Typical Sword</td>
<td>Physique: MID Wit: MID Perception: MID HP: MID</td>
</tr>
</tbody>
</table>

### 6.2.2.1 Monsters

These monster types are obstacles to hinder the hero’s progress through the dungeons.
<table>
<thead>
<tr>
<th>Monster</th>
<th>Description</th>
<th>Attack:</th>
<th>Health:</th>
<th>Pursuit:</th>
<th>Secondary:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit Bear</td>
<td>Lures the hero into a false sense of security with its adorable figure before revealing its true form as a rabid and horrible rabbit bear and attacking.</td>
<td>DMG 5</td>
<td>12</td>
<td>YES</td>
<td>NONE</td>
</tr>
<tr>
<td>Lesser Goblin</td>
<td>A lower level goblin that will attack on sight.</td>
<td>DMG 3</td>
<td>5</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Greater Goblin</td>
<td>A higher level goblin that will attack on sight.</td>
<td>DMG 4</td>
<td>7</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Goblin A</td>
<td>A goblin that is totally not a lesser goblin. Goblin A is often around Goblin B, C and D.</td>
<td>DMG 3</td>
<td>5</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Goblin B</td>
<td>A goblin that is totally not a lesser goblin. Goblin B is often around Goblin A, C and D.</td>
<td>DMG 3</td>
<td>5</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Goblin C</td>
<td>A goblin that is totally not a lesser goblin. Goblin C is often around Goblin B, A and D.</td>
<td>DMG 3</td>
<td>5</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Goblin D</td>
<td>A goblin that is totally not a lesser goblin. Goblin D is often around Goblin B, C and A.</td>
<td>DMG 3</td>
<td>5</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Fire Goblin</td>
<td>A goblin of the fire element, his attacks may cause a lingering burn.</td>
<td>DMG 5</td>
<td>5</td>
<td>NO</td>
<td>temporary burn</td>
</tr>
<tr>
<td>Ice Goblin</td>
<td>A goblin of the ice element, his attacks may freeze you.</td>
<td>DMG 5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Character</td>
<td>Description</td>
<td>Attack</td>
<td>Health</td>
<td>Pursuit:</td>
<td>Secondary:</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
<td>--------</td>
<td>-------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Lightning Goblin</td>
<td>A goblin of the lightning element, his attacks may stun you.</td>
<td>DMG 5</td>
<td>5</td>
<td>NO</td>
<td>STUN</td>
</tr>
<tr>
<td>Goblin Goblin</td>
<td>A goblin of the goblin element. So it's just a goblin.</td>
<td>DMG 5</td>
<td>5</td>
<td>NO</td>
<td>STUN</td>
</tr>
<tr>
<td>Trickster Tree</td>
<td>A tree that only grows at a crossroad. The first it is seen it is simply an eerie tree, the second it mimics a treasure. If the treasure is investigated it will revert and attack.</td>
<td>DMG 3</td>
<td>10</td>
<td>NO</td>
<td>MIMIC</td>
</tr>
<tr>
<td>Shrieking Lily</td>
<td>A lily that remains silent unless disturbed. If woken it will shriek and summon a lesser goblin if it is not destroyed within ten seconds.</td>
<td>N/A</td>
<td>15</td>
<td>NO</td>
<td>SUMMON</td>
</tr>
<tr>
<td>Ugly Grey Pudding</td>
<td>A gelatinous and hideous blob that is highly impervious to attack.</td>
<td>DMG 1</td>
<td>30</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Uglier Grey Pudding Cake</td>
<td>A gelatinous and hideous blob that is larger than the ugly grey pudding and is highly impervious to attack.</td>
<td>DMG 3</td>
<td>50</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Man Bat</td>
<td>A odd man bat creature that tends to appear out of nowhere. They tend to spawn near treasures or exits. They may call other man bats.</td>
<td>DMG 3</td>
<td>5</td>
<td>NO</td>
<td>SUMMON</td>
</tr>
<tr>
<td>Gentleman Owl Bear</td>
<td>A distinguished and vicious creature that inexplicably wears a top hat, bow tie, and</td>
<td>DMG 7</td>
<td>20</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Character</td>
<td>Description</td>
<td>Attack</td>
<td>Health</td>
<td>Pursuit</td>
<td>Secondary</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>monocle.  It can be found on paths leading to the treasure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NONE</td>
</tr>
<tr>
<td>Whining Worm</td>
<td>A whining worm that deals constant damage with its whining if within a radius of its attack.</td>
<td>DMG 5</td>
<td>20</td>
<td>NO</td>
<td>STUN</td>
</tr>
<tr>
<td>Black Metal Unicorn</td>
<td>A hardcore unicorn that will chase the hero until it is destroyed.</td>
<td>DMG 3</td>
<td>15</td>
<td>YES</td>
<td>NONE</td>
</tr>
<tr>
<td>Chattering Fairy Ball</td>
<td>These tend to follow the hero incessantly unless the hero either kills it or allows it to steal a stat point.</td>
<td>DMG 3</td>
<td>5</td>
<td>YES</td>
<td>STEAL</td>
</tr>
<tr>
<td>Lazy Salamander</td>
<td>A salamander that enjoys sleeping in paths. They possess high health but do not attack.</td>
<td>N/A</td>
<td>50</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Lonely Single Zombie</td>
<td>A zombie that will slowly pursue the hero while the hero is within a certain radius. He saps health as long as the hero is within sight.</td>
<td>DMG 2</td>
<td>15</td>
<td>YES</td>
<td>LEECH</td>
</tr>
<tr>
<td>Philosophical Dragon</td>
<td>A dragon who is often lost within his own thoughts and tends to confuse any heroes that attempt to damage him.</td>
<td>N/A</td>
<td>50</td>
<td>NO</td>
<td>CONFUSION</td>
</tr>
<tr>
<td>Un-philosophical Dragon</td>
<td>A dragon who is NOT lost in his own thoughts and tends to be stationed in front of valuables.</td>
<td>DMG 20</td>
<td>50</td>
<td>NO</td>
<td>NONE</td>
</tr>
<tr>
<td>Loopy Bird</td>
<td>A bird that pursues the hero character for a set distance before vanishing and spawning in a completely different room.</td>
<td>DMG 3</td>
<td>20</td>
<td>YES</td>
<td>RANDOM TRANSPORT</td>
</tr>
</tbody>
</table>
### 6.2.2.2 Heroes and their Personalities

Personality of the standard stereotypical heroes found in many games.

<table>
<thead>
<tr>
<th>Hero Sub Types</th>
<th>Personality</th>
<th>Locations and Origins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warrior</td>
<td>Understands little of the dealing of the world but give him an ominous named place and a wonderous treasure and he is ready for an adventure. Does little but hit things with his big shiny sword.</td>
<td>These heroes can be found from all over the world. Anywhere there is a dumb strong guy with a sword there is most likely a warrior there.</td>
</tr>
<tr>
<td>Traditional JRPG Hero</td>
<td>Constantly ponders the depressing nature of his life and compensates for his small...with his overly large sword. Enjoys slashing monsters with magic based physical attacks and likes wear asymmetrical clothing riddled with buckles and chains.</td>
<td>This hero type is generally from lands of Jagle Frworwk.</td>
</tr>
<tr>
<td>Rogue</td>
<td>A slippery character who sneaks around and uses his stealth to search for traps and dangers. Can often use his stealth to sell stolen goods. Likes to charm all those he comes into contact with.</td>
<td>As master thieves, the rogues have developed are found all over the world. Anywhere there is something that someone owns, there might be a rogue liberating from them at this very moment.</td>
</tr>
<tr>
<td>Magical Girl</td>
<td>A standard girl who gets extraordinary powers with an over the top transformation sequence. A ditz who uses the power of friendship and love to defeat her enemies. Loves to use rainbows and happy bright colors as weapons.</td>
<td>This hero type is generally from lands of Jagle Frworwk.</td>
</tr>
<tr>
<td>Wizard</td>
<td>A magic user like no other. Likes to use the big, strong, and stupid warrior as a shield as he ponders life’s intricacies. Uses his mind as his weapon but loves to uses magic spells that are clearly overkill.</td>
<td>While wizards can come from any land, most of them contain ties and loyalty to one of the ten major colleges of magic that exist throughout Algornia.</td>
</tr>
<tr>
<td>Ranger</td>
<td>A skillful individual that would</td>
<td>Generally hailing from the forests,</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranger</td>
<td>Rather not get in the thick of things. Loves to attack from far away. Loves forest garb and earth toned clothing.</td>
<td>Rangers are usually non-human races that come from one of the many forests of the world.</td>
</tr>
<tr>
<td>Teenage Chosen One</td>
<td>A teen who fights against his inescapable fate, yelling how fate and life is unfair. An individual who looks way older then he actually is and who must save the world from a disastrous fate.</td>
<td>For every group of people, they have their chosen one. They can come from any place, at any time.</td>
</tr>
<tr>
<td>Monk</td>
<td>A peaceful character…not. Will use the might of god to smite your sinful ass. Always sporting fashionable robes of 1 or two colors and looks like a beggar or vagrant.</td>
<td>The order of monks mainly derive from the plains of Sinitine</td>
</tr>
<tr>
<td>Berserker</td>
<td>Insanity? Of course, he’ll take three helpings. He cuts down all in his path no matter whether they be friend or foe. He loves the smell of blood and battle and craves nothing else from life.</td>
<td>Hailing from the northern colds and the largest most rugged mountains.</td>
</tr>
<tr>
<td>Bard</td>
<td>An individual who loves to tell stories and seemingly has few stories to tell of his own.</td>
<td>Coming from any great city.</td>
</tr>
<tr>
<td>Joe Hero</td>
<td>A hero that is so average its sad. He's fought a dragon and saved a princess and a town. He has a sword and he’s found a mystical artifact. Average height, average weight, average looks, the only thing he's not average at is being average. What a sad guy.</td>
<td>Hails from that typical country side hometown. You know the kind, no inn because your mother heals you and only about ten people with nothing to talk about and weird things happen to it if you turn your back.</td>
</tr>
</tbody>
</table>

### 6.2.2.3 Monsters and their Personalities

Background on the monster types that will pose as obstacles to the hero's progress.
<table>
<thead>
<tr>
<th>Monster Type</th>
<th>Personality</th>
<th>Locations and Origins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit Bear</td>
<td>Pretends to be cute and cuddly by fixing its characteristics to be that of an adorable baby cub while thinking of nefarious and malicious ways to rip the adventurer apart. It finds great joy in slaughtering the unwary.</td>
<td>This monster is generally located in caves.</td>
</tr>
<tr>
<td>Lesser Goblin</td>
<td>Self gain and underhanded schemes twist the mind of these wicked characters. Goblins consistently look down on all other races, thinking them beneath them. (This subclass is pridelful)</td>
<td>This monster is generally located in any abandoned structure or cave.</td>
</tr>
<tr>
<td>Greater Goblin</td>
<td>Self gain and underhanded schemes twist the mind of these wicked characters. Goblins consistently look down on all other races, thinking them beneath them. (This subclass is extremely pridelful)</td>
<td>This monster is generally located in any abandoned structure or cave.</td>
</tr>
<tr>
<td>Goblin A</td>
<td>Greedy monster, who wants to taste your deliciousness, the deliciousness of your flesh that is. (This subclass is arrogant)</td>
<td>This monster is generally located in any abandoned structure or cave.</td>
</tr>
<tr>
<td>Goblin B</td>
<td>Greedy monster, who wants to taste your deliciousness, the deliciousness of your flesh that is. (This subclass is arrogant)</td>
<td>This monster is generally located in any abandoned structure or cave.</td>
</tr>
<tr>
<td>Goblin C</td>
<td>Greedy monster, who wants to taste your deliciousness, the deliciousness of your flesh that is. (This subclass is arrogant)</td>
<td>This monster is generally located in any abandoned structure or cave.</td>
</tr>
<tr>
<td>Goblin D</td>
<td>Greedy monster, who wants to taste your deliciousness, the deliciousness of your flesh that is. (This subclass is arrogant)</td>
<td>This monster is generally located in any abandoned structure or cave.</td>
</tr>
<tr>
<td>Monster</td>
<td>Description</td>
<td>Location</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Fire Goblin</td>
<td>Self gain and underhanded schemes twist the mind of these wicked characters. Monster who wants to taste your deliciousness, the deliciousness of your flesh that is. Thinks about how to use its fire to slowly roast you alive while enjoying the melody of your blood curdling screams. (This subclass is extremely sadistic)</td>
<td>This monster is generally located in in the deepest reaches or volcanoes.</td>
</tr>
<tr>
<td>Ice Goblin</td>
<td>Self gain and underhanded schemes twist the mind of these wicked characters. Monster who wants to taste your deliciousness, the deliciousness of your flesh that is. Thinks about how to use its ice to freeze you alive while slowly dismembering your limbs and enjoying the melody of your blood curdling screams. (This subclass is extremely sadistic)</td>
<td>This monster is generally located in the icy mountains.</td>
</tr>
<tr>
<td>Lightning Goblin</td>
<td>Self gain and underhanded schemes twist the mind of these wicked characters. Monster who wants to taste your deliciousness, the deliciousness of your flesh that is. Thinks about how to use its lightning to slowly electrocute you while enjoying the melody of your blood curdling screams. Enjoys the sight of your twitching body as electricity runs through your body. (This subclass is extremely sadistic)</td>
<td>This monster is generally located in highly technical ruins</td>
</tr>
<tr>
<td>Goblin Goblin</td>
<td>Self gain and underhanded schemes twist the mind of these wicked characters. (This subclass is prideful)</td>
<td>This monster is generally located in any abandoned structure or cave.</td>
</tr>
<tr>
<td>Trickster Tree</td>
<td>Enjoys to slowly creek and sway with the wind, but when</td>
<td>This monster is generally located at crossroads.</td>
</tr>
<tr>
<td>Monster Name</td>
<td>Description</td>
<td>Location</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>Shrieking Lily</td>
<td>Enjoys scaring the crap out of the unwary. Takes great joy in luring adventurers to smell its sweet fragrance, only to leave them writhing on the ground with bloody ears when it screams.</td>
<td>This monster is generally located in caves.</td>
</tr>
<tr>
<td>Ugly Grey Pudding</td>
<td>Slow thinking and friendly monster who only wants to give you a hug, too bad it smother you and drowns you within its gelatinous body.</td>
<td>This monster is generally located in caves and ruins.</td>
</tr>
<tr>
<td>Uglier Grey Pudding Cake</td>
<td>Slow thinking and friendly monster who only wants to give you a hug, too bad it smother you and drowns you within its gelatinous body.</td>
<td>This monster is generally located in caves and ruins.</td>
</tr>
<tr>
<td>Man Bat</td>
<td>Blind creature, who smells the sweet nectar of your blood and enjoys draining your body dry. Driven by it insatiable hunger, cannot be reasoned with.</td>
<td>This monster is generally located in caves.</td>
</tr>
<tr>
<td>Gentleman Owl Bear</td>
<td>A creature that dresses like an English aristocratic gentlemen. A pompous fellow who slaps you across the face with a white pair of gloves, inviting you to a duel. It finds great entertainment and sport in slicing you with its saber like claws.</td>
<td>This monster is generally located Everywhere throughout the world.</td>
</tr>
<tr>
<td>Whining Worm</td>
<td>A sad fellow, who cries over it allotment in life and whines constantly about being a worm. Its patheticness is so vast that it actually deals damage to those</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This monster is generally located in caves.</td>
</tr>
<tr>
<td>Black Metal Unicorn</td>
<td>A unicorn bent on world domination and the destruction of all living beings. Runs to the hardcore ballads of rock.</td>
<td>This monster is generally located everywhere in the world</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Chattering Fairy Ball</td>
<td>A clepto who enjoys stealing because it is fun. It finds great ecstasy in taking what others have worked hard to obtain.</td>
<td>This monster is generally located in forests, but can be found everywhere.</td>
</tr>
<tr>
<td>Lazy Salamander</td>
<td>Extremely lazy creature. Finds the world and those in it to be boring and of little interest. The world of dreams is of greater consequence to this race.</td>
<td>This monster is generally located in caves and volcanoes.</td>
</tr>
<tr>
<td>Lonely Single Zombie</td>
<td>A depressed being that only want the company of others. It attempts to give adventurer’s hugs but its hunger get the best of it and it gorges itself on your flesh.</td>
<td>This monster is generally located in the dark places of the world.</td>
</tr>
<tr>
<td>Philosophical Dragon</td>
<td>Questions the hero with philosophical questions and ideals as it slowly rips you apart. Often ponders the question of: “Why are heros so delicious?”</td>
<td>This monster is generally located in the mountains.</td>
</tr>
<tr>
<td>Un-philosophical Dragon</td>
<td>Just wants to rip you shreds and eat you. A greedy creature that will protect its booty from all those who attempt to get near. It sees everyone as a potential enemy. (This creature is extremely paranoid)</td>
<td>This monster is generally located in the mountains.</td>
</tr>
<tr>
<td>Loopy Bird</td>
<td>A bird that just enjoys annoying heroes and picking out their eyes.</td>
<td>This monster is generally located in your mind.</td>
</tr>
</tbody>
</table>

### 6.2.2.4 Guidelines

Heroes will appear at the start of a dungeon and will execute their behavior until they either achieve their goal, lose their soul to the devil or die. They cannot exist outside of the dungeon.
The monsters will either be spawned at the start of the dungeon or by a trigger. They cannot exist outside of the dungeon.

6.2.2.5 Traits

The heroes will have unique traits that define their stereotype. These traits will be represented in game and will augment the hero’s abilities.

For instance:

The rogue has a trait that increases his trap detection ability by 15%. The barbarian has a trait that increases his damage the more he takes damage. The magical girl has a trait that regenerates a percentage of her total health upon defeating an enemy.

6.2.2.6 AI

Hero AI Requirements:

On map:

Prioritize objectives:

- collect final treasure/escape
- collect visible treasures
- investigate player tips/avoid player warnings based on trust level
- explore dungeon

Explore:

- find nearby unexplored tiles
  
  To make it random, find more than one nearby unexplored tile and randomly choose between them

- find path to target tile
  standard pathfinding

Collect (final) treasure/escape:

- find path to target tile
  standard pathfinding

Investigate player tips/warnings:

- explore towards tipped tile (hidden)
  bias tiles that are closer when choosing from the few nearby tiles
- find path to tipped tile (visible)
  standard pathfinding
- avoid warned tile
  increase threat for that tile (and possibly the tiles surrounding)
when computing path

In combat:
Choose when to:
- continue fighting
- call player
- run*
- skills*

Note: Probably use a system similar to Final Fantasy 12:
- uses an ordered list, loaded with the hero type, that checks conditions
  and performs the action(s) for the first condition set that is satisfied
  ex: 1. life critical & hasn't called player -> call player
    2. life critical -> run
    3. any -> attack

**Enemy AI Requirements:**
- Attack
  - use a similar system to hero combat
  - Move to engage hero*
  - Chase escaping hero*

**Pathfinding Algorithms:**

Breadth-first search divides each location into groups of different distances from the current location. It can also determine the shortest path required to reach each location. For pathfinding, this algorithm is less efficient for finding specific targets, as it will likely search locations opposite to the goal location. However, if tiles within a certain range must be found, or the closest goal selected from multiple goals that may be different unknown distances from the current location, this algorithm is a good choice. To find all locations within a certain distance, N, that number is given to the algorithm; if a location is further than N units from the current location, it is ignored. This variation is useful to find all locations that can be moved to within a certain time. To find the closest of multiple goals, the algorithm is run until it finds some goal, then it returns that goal and stops. Because of the order in which breadth-first search investigates each location, the first goal found is guaranteed to be no further away than any other goal. This variation is useful in exploration of an unknown environment, where the goal would be “find the closest unexplored location.”

The A* algorithm uses an estimate of how far to the goal in order to find the shortest path to a single goal. This estimate must always be lower than the actual distance to the goal. When searching for the goal, this algorithm starts with the location that is estimated to be closest to the goal, and only proceeds to locations that are estimated to be farther from the goal when the closer locations are proven to be the incorrect path. For pathfinding, this algorithm is efficient for finding single goals. However, the basic form of this algorithm only cares about the distance to
the goal, and ignores other factors that may exist, such as the danger of the path.

D\*, an algorithm resembling A\*, attempts to find the best path to a single goal in a partially known or changing environment. If it encounters a new obstacle, it modifies the “cost” of that path to reflect the found obstacles. For pathfinding, like A\*, this algorithm is useful when searching for a single goal in a known location, but unlike A\*, it is able to find paths when the area in between the current location and the goal is unknown. However, it is not suitable when the exact location of the goal is not known. Like A\*, it does not take into account other factors that may affect the desirability of the path.

Multiobjective A\* (MOA\*) is a modification of the A\* algorithm that takes into account multiple factors determining the desirability of the path to a goal. One major difference is that it considers all solution paths, and is therefore somewhat slow. For pathfinding, it is useful when other factors, such as danger, influence the desirability of a certain path.

Limited-Damage A\* (LDA\*) is a modification of the A\* algorithm that takes into account a maximum allowed damage taken or similar requirements for a path. It looks for acceptable paths instead of the best path, so it runs much faster than MOA\*. For pathfinding, it is useful for finding a single objective in a known location, when there are entities that may harm the searcher. It is especially useful for real-time applications compared to the other algorithms discussed, since it takes less time. However, it can still take significant amounts of time for real-time applications with larger maps, as times exceeded 10-20 ms on the hardware used for 98x98 grid maps.

**Pathfinding:**

**Exploration:**
- likely slightly modified breadth first search if using a completely tile-based world
- likely a color graph search if using a single node for each room
- could also use a variation on D\* when searching for a hidden tile the player told the hero about
- should return more than one nearby tiles (closest 2 or 3?) and choose one
  - i) search until an array has 2 or 3 unexplored tiles, then return that array
- return closest door if there are no unexplored tiles in range

**General pathfinding (move to target and move to chosen unexplored tile):**
- likely LDA\* (Least-Damage A\*) or variant
  - i) LDA\* is a variant of A\* that takes threat levels into account when computing paths
  - ii) ends up with non-optimal paths, but optimality is not required for this application (and might even be less desirable)
  - iii) possibly combine with a real time A\* variant, but standard A\* is fast enough to run ~50 times/sec in javascript
    
    (see [http://fdm2.ucsc.edu/~jormitch/johnMitchellFinal/](http://fdm2.ucsc.edu/~jormitch/johnMitchellFinal/)
    
    It will not likely need to go anywhere near this fast due to the time it will take the hero to move between tiles)
- find path to goal while trying to avoid known threats
  - i) contribution from threats can be based on hero's HP
ii) high HP - willing to fight enemies
iii) critical HP - avoid enemies if at all possible

Call player when a door is blocking the planned path and no key:
-dont return tiles behind doors when looking for nearby unexplored unless there are no others

7. Story

Rough Map of Illderan: rough size of Australia
Map of Sesthis Isles: rough size of Great Brittan

7.1 World and Character Glossary

1. Algorn: A great powerful immortal being who created the world of Algornia, all the creatures on it, and imbued them all with souls. Upon growing board of being a benevolent god he then devoted his existance to the manipulation of lesser being’s emotions for his own enjoyment.

2. Algornia: The world that the story of Devil’s Bargain takes place on.

3. Angel: A Galdibor who remained loyal to their original purpose of guarding the souls of the lesser beings.

4. Devil: A Galdibor who fought on the side of the using the souls of lessor being for their own personal gain and power.

5. Eldiroth Empire: an ancient empire that resided in the western mountains on Illderan.

6. Galdibor: A group of beings created by Algorn in order to watch of the souls of other beings. Due to a rift within the Galdibor the species split into Devils and Angels.
7. Galthren: A young female angel who is searching for the Vault of Malkdorsh. She is quiet, nerdy, and somewhat socially awkward, but can still hold her own in a fight. She is determined to obtain her goal and will not let anyone stand in her way.

8. Illderan: A continent located in the northern sea on Algornia. It has a long history containing the rise and fall of many different great empires and kingdoms. It is full of dungeons full of treasure and monsters and has become a hot spot for adventurers from across the world.

9. Nalden: A young devil, just graduated from the Rectholn Academy with hopes and dreams to take over the world (of course).

10. Rectholn Academy: An academy for young aspiring devils who want to learn the art of stealing souls. Upon graduating, the devils are then work for the academy in order to obtain souls for them. The Academy is located upon the peak of a mountain in the western mountain range on Illderan.

11. Sesthis Isles: a group of islands on the world of Algornia

12. Vault of Malkdorsh: A vault containing incredible power. Locked up for eternity. It contains a soul engine that is able to generate soul power without actually damaging the souls of any beings.

13. Yelgda Bogba: A large, buxom, rude she devil who serves as Nalden’s overseer upon his graduation.

7.2 World Backstory

Long ago Algorn, the grey master, travelled through the great emptiness. His journey was long and seemingly never ending and so he devoted his existence to the pursuit of creation, least he succumb to a feeling of great boredom. One day Algorn stumbled upon something new. A planet, devoid of any life at all but a giant rock was more than interesting enough to distract him from his travels. It was then upon this barren planet, which he named Algornia, that Algorn set out creating life in order to amuse himself.

At first his creations were lifeless without care or meaning. It was then that he introduced a new power into his creations: the soul. The soul gave these creatures the ability to think, to feel, to love. But the soul was a dangerous thing. To provide these qualities it would need to be a substance of great power and thus he created the Galdibor to watch over the souls of the lesser beings of the world. And so the world of Algornia was fully created and Algorn grew bored once again.

At first he tried to nurture and care for his subject, but they got greedy and began begging. Then he tried ignoring them, but their general day to day prattle was not interesting enough for his tastes. It was then that he decided to return to his roots, experiments. With his subjects
having the crucial element required to feel they were susceptible to emotional tinkering. Thus, Algorn began meddling within the affairs of the mortal creatures he created. He created joy, hate, love, loss, happiness, wars, suffering. It was at this time that Algorn sparked a division within the Galdibor. On one side were the Devils, beings who wanted to use the power of the souls of lesser beings to rule the world and on the other were the Angels who wanted to keep the original purpose of protecting the souls of others. Thus the struggle between Devils and Angels began. At the current time the war between the two factions has died down. While there exists a divide and hostilities between the groups, all out warfare has not happened in hundreds of years.

7.3 Setting

The continent of Illderan lies in the great northern sea. Great civilizations have risen and fallen throughout the ages leaving behind countless treasures, dangerous dungeons, and hidden horrors within the deep. The buried riches and countless dangers attracts heroes from across the world. What's more is the Recholn Academy is located upon the great mount Yeldermaer surrounded by the ruins of the great Eldiroth Empire within the western mountain range.

The Recholn Academy was founded by the devil Wornat Recholn after the decrease in war activities order to provide a training ground for young devils to begin their career in obtaining the souls of lesser beings to raise power for the school, the empire of devils, and for the individual devil themselves.

7.4 Nalden

Nalden is one of the students at the academy. Having gone through the complete program, he has learned all the basic tricks of soul stealing and upon the completion of this final exam is thrown out into the world of souls stealing. Nalden was never the best student at the academy, but was never the worst. He got in the occasional trouble, but normally didn't break the rules. For all intensive purposes Nalden is normal, average, nothing special. But Nalden has aspirations for the future. He has plans that go beyond the reach of the other devils as he strives personally for world domination. To rule not only the lesser being and the angels, but to control the rest of the devils themselves.

7.5 Story Outline

1. Nalden passes his final devil exam in which he steals his first soul. He is then brought into the business of soul stealing for the power of the academy. The academy then gives him specific soul targets that he must then obtain as it is now his job.

2. Nalden sets his first goal of removing the Yelgda Bogba, a large, overbearing, buxom, she devil who acts as his higher up. Upon her removal Nalden would be able to pick is own tasks rather than just be assigned them.
   a. Nalden must run his regular soul stealing duties to raise his reputation of being a good soul stealer within the company.
b. Nalden then uses his talent in manipulation to manipulate Yelgda Bogba into accidentally releasing a vault of souls. By doing this she ends up losing her job, but Nalden, who set up a device in order to capture the fleeting souls is praised as a hero and is given a promotion up to the rank that Yelgda Bogba once held.

3. Nalden is now free to choose his own tasks rather than being assigned them. His next goal is to give himself the ability to collect additional souls without them being tracked by the academy. To accomplish this he must remove himself from the master automatic collection library.
   a. Nalden must now complete enough soul collections to rise up the ranks and gather enough power.
   b. When he has enough, he manipulates the collection keepers in order to destroy them.

4. Now that Nalden is no longer tethered to the academy he is able to begin a soul collection for himself. When Nalden has gathered enough souls he will attempt to permanently destroy the academy, the angelic empire, and the kingdom of the devils, in that order. And he does it. During this time Nalden is visited by Algorn who applauds him for his masterful collection of power, but at the same time tries to dissuade his goal of total world domination stating by relating his experiences of ruling the world with him. He claims that just messing with mortals is more fun than ruling over them.

5. After achieving his goal of world domination Naldor begins a master plan of manipulation. Naldor manipulates both worrying situations and mass soul collection deals to create massive soul bombs.

6. In the end Naldor calls Algorn to him in order to detonate his plan and pledge the world into chaos and anarchy. Naldor unleashes his plan and watches the world burn.

7.6 Subplots

During the previous plot there is a plot running throughout the dungeons themselves. These will be shown through the items found throughout the dungeons, dialog of the hero, and the general situations that dungeon place, particularly when angels pop up. The subplot moves it way into the main plot by giving an out to the world in order of an attempt to reduce the power of Naldor at the end and stop the world from burning. The basic subplot is that there exists a greater vault of power in which an angel may use to have the power of a greater devil with the power of many many souls. The subplot revolves around an angel named Galthren.

Galthren is a young angel who is about the same age of Naldor. Basically she was also a pretty average achiever and now out of the academy she has gone out into the world to adventure, discover this great vault of power, and attempt to save any souls that she can. Throughout the campaign Galthred is pitted against Naldor as either a target for manipulation or an additional helper to the heroes in which Naldor must deal with. Upon obtaining the power in the vault, Galthren attempts to stop Naldor’s scheme of destroying the angels and throwing the world into chaos, but is instead only able to save small areas of the world from his wrath.
8. Media List

Devil’s Bargain will be using Photoshop to create art assets. The kinds of art assets that we will be creating are mentioned in more detail below.

8.1 Interface assets

Naming convention: ui_whatever

Assets needed: User Interface - See section 5.3.1

8.2 Environments

Naming convention: env_whatever

Assets needed: Map tiles (64x64 each)

   Items and Traps (See section 5.6)

Concept art: Item Shop “EvilBay”

8.3 Characters

Naming convention: chara_whatever

Assets needed: Devil character

   Monsters (See section 6.2)

   Heroes (See section 6.2, will be roughly 2 tiles tall)
Concept Art: Devils
Concept Art: Heroes
Concept Art: Monsters
8.4 Animation
Naming convention: anim_whatever

Assets needed: Sprite sheets (2 rows x 6 columns)
   - Hero sprite sheets
   - Monster sprite sheets

8.5 Music and sound effects

Naming convention: sound_whatever
   music_whatever

Assets needed: Sounds
   - UI
   - Hero actions/combat
   - Monster actions/combat
   - Trap effects
   - Object building
   - Other object sounds (opening doors, collapsing tunnels, etc.)

Music
   - Normal dungeon music
   - Combat music
   - Endgame music (high trust/desperation)

9. Technical Spec

The technical specifications of Devil’s Bargain are mostly encapsulated by Microsoft’s XNA libraries. We will be using those libraries to handle our pipeline, rendering, lighting, and camera.

The AI in our game is the only part that won't be handled for us, and we will have to develop the AI for the hero and your devil minions.

Each of these subjects are talked about in detail below.

9.1 Technical analysis

The Camera, Rendering, Lighting, Texturing, and pipeline are trivial because XNA libraries handle it.

The level editors are do able, it is easier than doing height maps, which is essentially the same concept and most of our programmers have done.

The Hero and Monster AI is non-trivial and will be a challenge to do right. A pathfinding demo has been built already to circumvent the complexity of the AI. There is still the item priority, edge cases, and combat tactics to integrate into our AI.
9.1.1 New technology

The only new technology being developed for this game is the AI system. See section 6.2.2.8 for full details.

9.1.2 Major software development tasks

A considerable amount of the engine work will be handled by the XNA framework. The primary development task will be programming and designing the AI for hero control.

9.1.3 Risks

The AI system is the main risk for this project. XNA was chosen as our development environment in order to limit potential difficulties.

9.1.4 Alternatives

We could build our own engines that utilize DirectX or OpenGL. This would give us a greater degree of control, but introduce a lot of risks associated with designing and building a new engine.

9.1.5 Estimated resources required

Specifics discussed in Section 10.3
- Team members (already assembled)
- Computers for development and testing, loaded with XNA (available)
- Artist resources (Photoshop / Gimp / Tablets / etc.)
- Time: roughly 6 months

9.2 Development platform and tools

Development Platform and Tools

We will be making Devil's Bargain for the PC using XNA 4.0. Since XNA can also compile for Xbox 360 we may port it there eventually but we will make it for PC first. XNA is a framework for making games that contains many low lying components. This saves us time for having to develop engine components and allows us to focus on gameplay. Everyone in our group has also programmed in C# and has used XNA so it is the most familiar tool to the group. We will also be using Qt to prototype our GUI. Qt has a very intuitive GUI designer tool that will allow us to layout our menus and buttons and get a sense for the feel of navigating the UI.

-We will be using C# with XNA libraries to develop the game
-We will be using StarUML to draw out the UML diagram of our game

9.3 Delivery
Our plan is to release the game to Steam by the end of Spring quarter of 2012.

9.3.1 Required hardware and software

Hardware:
- 2 powerful desktop computers
- 8+ personal laptop computers
- 1+ personal desktop computer
- 3+ tablets for art
- 1 speaker set to test sound

Software:
- Microsoft Visual Studio C# with XNA libraries installed on every programmer’s computer
- Photoshop
- VLC
- StarUML
- Dropbox
- Microsoft Word
- Microsoft Powerpoint
- Slugmail accounts
- Adobe Reader version 9 or above
- TortoiseSVN

9.3.2 Required materials

- Large wall for scrum board
- Space for scrum burndown chart
- DnD mat
- EXPO black markers
- miniatures
- DnD dice
- Paper
- Foam stickies
- Whiteboards
- Writing equipment
- Whitewash

9.4 Game engine

The game engine of Devil’s Bargain are simply the packages that XNA offers to us. The specifics of these packages are described in the sections below.

9.4.1 Technical specs

The game engine of Devil’s Bargain will consist of the following components:

- Resource Loader
9.4.2 Resource Loader

specs
-load/manage/unload assets

The resource loader is responsible for loading and managing all of our in game assets. Loading our sprites will be done through XNA’s content manager. The function Content.Load() will allow us to load the sprites which will be in the form of png images. Each game object will have a sprite associated with it. We will then sort the assets by type. This will be implemented by having a super class game object with each object such as item, creatures, icons, map tiles as a subclass. The map can then hold references to everything on the it. The game map will be loaded as a series of tiles. The resource loader will also be responsible for removing assets from the map when they are destroyed or otherwise become obsolete. This can also be done with Content.Unload(). We can also load and unload our sound effects this way.

9.4.3 Sound Effects

specs:
-play sound when required

Our game sounds will be handled using the XNA SoundEffect class and it’s various functions for loading and playing sounds. We will load the sound into a SoundEffect object and then use functions such as play() to play them or loop() to loop an overworld theme.

9.4.4 UI / HUD

specs:
-click-able buttons/menus for inventory
-display asset data on mouse-overs

Our UI/HUD will be responsible for allowing interaction between the player and the game. The player must be able to open his or her inventory and use items from it as well as talk to the hero or give them a gift or advice. We will create a structure for click-able UI buttons and menus. We will place buttons using sprites and use the built in XNA classes KeyboardState and MouseState for detecting keyboard presses and getting the mouse position to see if they are mousing over a button. Keystate.IsKeyDown() will return a bool on whether a given key is pressed and Mousestate.X and MouseState.Y will give us the coordinates of the mouse. Our menus will be dropdown. we are exploring ways to make these, one idea is to open a second
viewport when a button is clicked. The HUD will also display the stats of heroes and items on the game map when the player mouses over the hero or item.

9.4.5 AI

specs:
- navigate the map
- intelligently choose and execute actions
- collect items/give soul

Our AI will be the most complex part of the game. We will have a low lying structure of a priority queue that will contain all the computer's options sorted by priority of what he should be doing. When it is the AI's turn it will shuffle it's queue based on the player's last action then pick the action on the front of the queue as it's move to execute, the results of their action will then be processed and the queue will be shuffled again based on what it has learned from the action. Path finding for the AI will be done using the A* algorithm or some variant. For more complete information, see section 6.2.2.8

9.4.6 Animation

specs:
- control animations for actions

Our animation will be done using sprite sheets. These are supported in XNA. We will create a structure for iterating over a resource image to loop through the frames of animation. We will load the sheet and have variables to mark the the specific texture coordinates and also the width and height of the single frame. We will draw the frame and then in an update function we will adjust the variables to move to the next frame every x clock ticks for as long as that action is being done.

9.4.7 Debugging / Performance

specs:
- print variables of functions
- print performance time of functions

Our game will use an automated system to print out debugging information as well as performance information while the game is running so that we can see what is working and where improvements can be made. We can use trace functions to do this. Also, we will have unit tests and regression tests for our functions to make sure that the outputs of every function given every possible input are correct as we continuously integrate. These will be implemented by having separate files that contain function calls with every possible argument. We will then check the results of the function call with the expected output and make sure that the results are correct.

9.4.8 Collision

specs:
-check if 2 objects are intersecting

For collision detection we will use 2d bounding boxes. These will be used to see if any game objects are intersecting each other. If there is low efficiency with this we can implement quad trees. The main types of bounding volumes that we will use will be rectangles and circles. We may also use ovals and parallelograms. If the bounding volumes overlap than we know those objects are intersecting with each other. We will compare bounding volumes with the coordinates of the mouse point also to see if the player is clicking on anything.

9.4.9 Scripting

specs:
- hold properties of items
- hold information about heroes

We are planning to implement a scripting language for our game to allow efficient look up of certain properties of items and also information of heroes (this needs to be added upon)

9.4.10 Lighting

specs:
- reveal/cover certain areas of map
- particle engine for effects

Our lighting model will consist of ambient diffuse and specular lighting. It will be implemented partly on the GPU. We can do specular highlights using pixel shaders to apply some white color to certain areas of the sprite. We will create masks through post processing effects to cover certain areas of the map. We will do this by saving the entire backbuffer into a texture and then applying some noise to it in a pixel shader. Then based on the location of the player, his knowledge of his surroundings and presence of light sources such as torches we will decrease the noise of the those areas and reveal the map. We will also implement a particle engine for our in game particle effects. This will ideally also be implemented on the GPU by using vertex buffers and pixel shaders. We can pass in a series of points and update their positions in a vertex shader so that it does not slow down the performance of rest of the game. We want the particle engine to be robust so it will contain fields for whether or not is a persistent effect and different velocity functions to create a variety of effects.

9.4.11 Rendering

specs:
- draw sprites to screen
- camera with a fixed view that can be panned

For rendering our sprites we will primarily use XNA’s built in SpriteBatch class and draw functions. However we may also implement some drawing on the GPU using vertex buffers. This will consist of point based drawing. We can pass in the points that we want to draw into a
vertex shader and set the final positions there. This will increase the efficiency of drawing our objects and will lead to better overall performance. The camera will be a top down view. The game will be rendered orthogonally but we will create an isometric perspective with the art style. To pan the camera we will have a global offset for the world. Therefore all objects will be shifted by this offset to get their new positions if the camera has been “moved”.

We will be using the XNA packages that use 2D graphics to render our game world. We will be employing an isometric camera view and use sprite sheets to animate the characters, monsters, and items in the game world.

9.5 Internet/Network spec

This game will not be using the Internet or network.

9.6 System Parameters

Controls:

The game will employ the mouse as the primary means of interaction. The program will check relevant input from the player, whether it be mouse movement or mouse clicking, and respond appropriately.

9.6.1 Web sites

Devil’s Bargain will have a wiki which will contain content updates and development blogs. The website is: devilsbargaindev.blogspot.com

9.6.2 Saving games

The player will be able to save his game outside of the MVP. The position of all enemies, allies, and the stat points of everything will be saved into an XML file that will be stored onto the player’s hard-disk. The file extension will be <saved_game_name.db>

Once a save game command has resolved, the player will be back in-game. From there, the player may choose to continue playing or exit the game.

9.6.3 Loading games

The player will be able to load his <saved_game_name.db> file from the main menu and from the in-game menu. The load method will simply pull all the data from the XML save file and pass all its variables to the proper constructors.
9.7 Setup

Installation:

(Windows - .ccgame) Download and run the .ccgame file, click unpack, and double click the .exe created.

(Windows - setup.exe) Run setup.exe then click “Install”

10. Appendices

Members

'I, Trevor Amspaugh, am a pretty cool guy who likes to do cool things, you know what I mean? I like to work on things, but spend more time worrying about the thing I was supposed to work on, until the thing is due and I’m like "Aw" and then I do it but it's not like the way I was thinking the thing could be if I hadn't paid attention to "Genius is one percent inspiration, ninety-nine percent perspiration". The 'genius' part is a bit of an exaggeration, because I think it's pretty cool for a pretty cool dude like myself, but other people don't feel the same way. But whatever, dude, whatever.'

Hi, my name's Joshua Carrenca and I am one of the artists on Team Faust. My work includes traditional painting, digital illustration, and 3d art and animation. My lofty goal in life is to create art for the best game studios in the industry. I also enjoy long walks on the beach followed by kicking children's sandcastles followed by runs on the beach while cackling like an evil mastermind.
My name is Verna Chang and I am a designer, programmer, writer and artist with a figurative raging boner for video games, comics and animation of many varieties. So very many, I can’t stop talking about all these pieces of fiction that my arms can’t even hold. On the occasion I am not caught in this slippery fiendish contraption of a conundrum I occasionally remember that I aspire to be one of the very best designers of games like no one ever was, and that aside from being a student of the game design program I also happily study art and write.

Choosing an absolute favorite game amongst games that I like is a scary and treacherous path I dare not take but amongst my favorites are Chrono Trigger, BlazBlue, Final Fantasy Tactics Advance, and the Professor Layton series. My favorite genres are that of the role playing, fighting, and platforming persuasion as well as games with fantastic art direction and character design though any game that catches my eye whether by trailer, article, or hearsay will be promptly hunted down with all the pin point accuracy of an eagle with an amazon account and added to my universe threatening backlog.

My name is Xian Chua. I currently a senior Art Major at UCSC. After Graduation I plan on going to Graduate School in Los Angeles and then working as a concept artist for a Game Studio in California. My favorite color is Orange and my favorite game currently is Skyrim. The first game I ever owned was Diablo II, and the first console I ever owned was a Play Station 2.
Ivan Evert-Burks - forever alone :D

My name is Erik Gallegos. I am the dedicated level designer and a literature major at UCSC. When it comes to making fun and interesting video games, I am the best.
I am Kevin Hewitt. I am one of the remaining few who was forged upon the anvil of binary, shaped by the legendary god programmer Wesley Mackey, and tempered in the grim and dark manufacturums of UCSC.

I have done OpenGL, AI, software methodologies, networking, comparative programming, databases, and pretty much every facet of game making. I am best with C, C++, C#, Java, Perl, and Lua. I have used Scheme, Ocaml, Prolog, mySQL, Smalltalk, Actionscript 3.0, HTML, CSS, Javascript, PHP, and a couple of assembly languages.

I prefer subtle tactics over brute force, eloquent tendrils of pressure to break my opponent over the sledgehammer. I am a master in the ways of Starcraft, Diablo, Warcraft, Warhammer, and douchebaggery.

I like to model and paint miniature figures for Warhammer40k, play MTG, write useful WoW addons for my own personal use, HOMM series, My Little Pony: Friendship is Magic, classical and neo-classical music, gregorian chanting to a degree, music scores from games, Settlers of Catan, Dungeons and Dragons, and I have a peculiar fascination with hacking. I plead the 5th.
My name is Joshua Jacobson and I like ponies. Now that that's out of the way, I am a programmer, designer, writer, artist, musician, and general guy who gets asked all the questions. I tend to fool myself into thinking that I’m actually qualified to do any of these things, but deep down I know the truth. It’s not for you to know. See I have this problem where I tend to think I’m funny, but in reality I’m about as hilarious as Pinkie Pie was when she brutally tortured and murdered Rainbow Dash in Cupcakes, but I digress. My favorite game of all time is Ōkami and I like mainly games in the RPG, Adventure, and Platformer genres. I like playing Magic, particularly mono-blue permissive control and I have spent way too much money on the game. I like watching a wide variety of movies and I have a special place in my heart for those movies out there that are so bad that you can’t help but laugh at them. I enjoy listening to progressive rock, classic rock, fusion, classical, and many lots more, though I prefer the music on the more experimental side as show by my favorite artists being King Crimson and Frank Zappa. I really enjoy well done 2D and stop motion animation and the rise of so much 3D animation has begun to annoy me to tears. I tend to draw and write about my own original characters and world which basically serves as giving myself no popularity and care from other people on the interwebs, particularly from that place of scum and villainy known as deviantART. But I don’t care and so will merely continue to stay true to my values and refuse to draw any fan art or write any fan fiction ever and… Oh wait, I’m drawing and writing about ponies now. My bad. I just realized that this is a giant wall of text. Oh well why bother going back and adding line breaks to this. Much more fun on the eyes to do it this way. Now all I need is a bunch of poorly written, grammatically incorrect, misspelled, and topically perverse sentences to follow this and it will be like a real fanfic, but I will spare you the trouble. Beyond all this, I’ve got an incredibly twisted sense of humor such that I actually enjoyed and laughed at the previously mentioned...
### Cupcakes.

TLDR: I’m Joshua Jacobson and I’m a terrible pony.

### My name is J.R. Mitchell and I am a programmer on Team Faust. I have experience in Java, C, C++, C#, and OpenGL. I have worked on most parts of games, from graphics to AI to general engine programming.

### Hi my name is Brian Pawlina. I have experience programming in C++, OpenGL, C, Java, functional languages and scripting languages. I like graphics, gpu, and effects programming. I enjoy garlic, pain, making myself squeamish by watching really gory horror movies, and being used and abused by beautiful women.
People call me many things: the King of Conquerors, the Sun Emperor, or even the International Man of Mystery, but you may call me Justin Phan. I am a programmer with experience in Java, C, C#, C++, Inform 7, Wide Ruled, Processing, and assembly code. I have taken courses that involve graphics, engines, and will take AI. I have some experience managing people, and I will be using these skills for this project. I suppose mongrels such as yourself are worthy of my presence. Rejoice!

Mae Wilson says “Silly Rabbit, Idealism Is for Kids!”
Hi, I’m Chase Yasuda and yes, my head is a radish. I’m a programmer with experience in C, C++, C#, Java, and Perl. But now, on to the important things. My favorite game genres are RPG and strategy. Also, I like strange drinks and fish. For the sake of your safety, please refrain from pulling my root-tendrils.

I’m Elmer Zhu. I like art and...stuff. Drawing, painting, blah-dee-blah-dee-blah. Anyway, I’m making art for this game.

Sound and Music

Brian Madigan
Ben McMurtrie

**Letters of Intent:**

Joshua Carrenca:

I, Joshua Carrenca, hereby pledge to devote 12-15 hours of work per week to the Devil's Bargain project in the event that it becomes green lit. I’ll be contributing concept art and in-game art assets.

Xian Chua:

I, Xian Chua, pledge to devote an average of 15 hours a week to the Devil's Bargain project as Art Director and Concept Artist.

Elmer Zhu:

I, Elmer Zhu, commit to dedicate a minimum of 15 hours of my time per week to creating art assets for the team working on the The Devil's Bargain.
Brian Madigan
I, Brian Madigan, pledge to compose the music for the game.

Ben McMurray
I Ben McMurray, agree to do sound work for the game.