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Prof. Tucker

Final Project UML

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| Player |
| - string name  - int attack  - int weaponDamage  - int defense  - int hp  - int level  - double xp  - double levelxp  - int coins  - vector<Item> backpack  - vector<Item> equipment |
| + Player()  + Player(string name)  + string GetName() const  + void SetName(string name)  + void AddXp(double xp)  + double GetLevelXp() const  + void AddLevelXp(double xp)  + int GetLevel() const  + void AddLevel(int num)  + void Combat(const Monster m)  + void Trade(const Trader t)  + void Talk(const Guide g)  + void Equip(const Item i)  + void Unequip(const Item i)  + void DrinkPotion(const Potion p)  + void AddToBackpack(const Item i)  + void CheckBackpack() const  + int GetAttack() const  + void SetAttack(int att)  + int GetWeaponDamage() const  + void SetWeaponDamage(int dmg)  + int GetDefense() const  + void SetDefense(int def)  + int GetHp() const  + void SetHp(int h)  + int GetCoins() const  + void AddCoins(int c)  + void SpendCoins(int c) |

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| Guide |
| - string name |
| + Guide()  + Guide(string name)  + string GetName() const  + void SetName(string n)  + void GiveAdvice()  + void GiveDirections() |

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| Trader |
| - string name  - int coins  - virtual char specialty = 0  - virtual vector<Item> inventory  - double priceMultiplier |
| + Trader()  + Trader(string name)  + string GetName() const  + void SetName(string n)  + int GetCoins() const  + void SetCoins(int c)  + char GetSpecialty() const  + void SetSpecialty(char spec)  + void ListInventory() const  + void AddToInventory(const Item stock)  + double GetPriceMultiplier() const  + void SetPriceMultiplier(double mult) |

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| WeaponSmith (IS-A) : Trader |
| - char specialty = ‘W’  - vector<Weapon> inventory |
| + WeaponSmith()  + WeaponSmith(string name) |

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| ArmorSmith (IS-A) : Trader |
| - char specialty = ‘A’  - vector<Armor> inventory |
| + ArmorSmith()  + ArmorSmith(string name) |

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| Cleric (IS-A) : Trader |
| - char specialty = ‘C’  - vector<Potion> inventory |
| + Cleric()  + Cleric(string name) |

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| Ally |
| - string name  - virtual char specialty = 0  - int attack  - int weaponDamage  - int defense  - int hp  - int level  - vector<Item> equipment |
| + Ally()  + Ally(string name)  + string GetName() const  + void SetName(string name)  + char GetSpecialty() const  + void SetSpecialty(char c)  + int GetLevel() const  + void AddLevel(int num)  + void Combat(const Monster m)  + void Talk()  + void Equip(const Item i)  + void Unequip(const Item i)  + int GetAttack() const  + void SetAttack(int att)  + int GetWeaponDamage() const  + void SetWeaponDamage(int dmg)  + int GetDefense() const  + int SetDefense(int def)  + int GetHp() const  + void SetHp(int h) |

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| Elf (IS-A) : Ally |
| - char specialty = ‘E’  - double attackMultiplier |
| + Elf()  + Elf(string name)  + double GetAttackMultiplier() const  + void SetAttackMultiplier(double mult) |

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| Dwarf (IS-A) : Ally |
| - char specialty = ‘D’  - double defenseMultiplier |
| + Dwarf()  + Dwarf(string name)  + double GetDefenseMultiplier() const  + void SetDefenceMultiplier(double mult) |

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| Man (IS-A) : Ally |
| - char specialty = ‘M’  - double hpMultiplier |
| + Man()  + Man(string name)  + double GetHpMultiplier() const  + void SetHpMultiplier(double mult) |

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| Monster |
| - virtual char specialty = 0  - int attack  - int weaponDamage  - int defense  - int hp  - int level |
| + Monster()  + Monster(int level)  + int GetAttack() const  + void SetAttack(int att)  + int GetWeaponDamage() const  + void SetWeaponDamage(int dmg)  + int GetDefense() const  + void SetDefense()  + int GetHp() const  + void SetHp(int h)  + int GetLevel() const  + void SetLevel(int lvl) |

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| Boss (IS-A) : Monster |
| - char specialty = ‘B’  - double attackMultiplier  - double defenseMultiplier  - double hpMultiplier |
| + Boss()  + Boss(int lvl)  + double GetAttackMultiplier() const  + void SetAttackMultiplier(double mult)  + double GetDefenseMultiplier() const  + void SetDefenseMultiplier(double mult)  + double GetHpMultiplier() const  + void SetHpMultiplier(double mult) |

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| Goblin (IS-A) : Monster |
| - char specialty = ‘G’  - double attackMultiplier |
| + Goblin()  + Goblin(int level)  + double GetAttackMultiplier() const  + void SetAttackMultiplier(double mult) |

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| Ork (IS-A) : Monster |
| - char specialty = ‘O’  - double defenseMultiplier |
| + Ork()  + Ork(int lvl)  + double GetDefenseMultiplier() const  + void SetDefenseMultiplier(double mult) |

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| Troll (IS-A) Monster |
| - char specialty = ‘T’  - double hpMultiplier |
| + Troll()  + Troll(int lvl)  + double GetHpMultiplier() const  + void SetHpMultiplier(double mult) |

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| CombatClass |
| - int virtual damageModifier  - char type  - virtual char \_class |
| + CombatClass()  + int GetDamageModifier() const  + void SetDamageModifier(int dmg)  + char GetType() const  + void SetType(char t)  + char GetClass() const  + void SetClass(char c)  + int GetLevel() const  + void SetLevel(int lvl) |

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| Warrior (IS-A) : CombatClass |
| - int damageModifier  - char type = ‘W’ |
| + Warrior() |

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| Archer (IS-A) : CombatClass |
| - int damageModifier  - char type = ‘A’ |
| + Archer() |

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| Wizard (IS-A) : CombatClass |
| - int damageModifier  - char type = ‘W’ |
| + Wizard() |

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| Item |
| - string name  - float price |
| + Item()  + Item(string name)  + Item(string name, float price)  + string GetName() const  + void SetName(string n)  + float GetPrice() const  + void SetPrice(float p) |

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| Weapon (IS-A) : Item |
| - int damage |
| + Weapon()  + Weapon(string name)  + Weapon(string name, float price)  + int GetDamage() const  + void SetDamage(int dmg) |

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| Armor (IS-A) : Item |
| - int defense |
| + Armor()  + Armor(string name)  + Armor(string name, float price)  + int GetDefense() const  + void SetDefense(int def) |

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| Potion (IS-A) : Item |
| - int quantity  - int effect;  - double effectMultiplier |
| + Potion()  + Potion(string name)  + Potion(string name, float price)  + void SetEffect(int eff)  + void ActivateEffect()  + double GetEffectMultiplier() const  + void SetEffectMultiplier(double mult) |