

CSCI321

Computer Science Project

D20 character generation
and maintenance

Final User Manual

*Spring Session
October 2004*

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Contents

○ Introduction	03
○ Getting started	04
○ Understanding your screen	05
○ Creating a new character	06
• Class / race / alignment	07
• Setting abilities	08
• Combat statistics	09
• Character features	10
o Biography	11
o Features	12
o Languages	13
o Gods & domains	14
o Companion	15
• Skills	16
• Feats	17
• Equipment	18
o Purchasing	19
o Equipping	20
o Funds	21
o Magic items	22
- Creating a new	23
- Cursed item	24
- Intelligent item	25
• Spells	26
• XP and HP	27
• DM Notes	28
○ Editing an existing character	29
○ Saving a character	30
○ Printing a character sheet	31
○ About the project	34
○ Meet the team	35
○ Glossary	36

Introduction

Welcome to the *d20 character generation and maintenance program*. This powerful tool will help you to create character statistics for all d20 game sets, as well as allowing you to make running changes throughout the life of the character. With facilities that allow you to create a new d20 system character from scratch, edit an existing character or create a random character of your choice, the *d20 character generation and maintenance program* makes character creation and maintenance easy!

Role-playing games, also known as RPG's, are paper-based adventure games that take the players on journeys and campaigns filled with monsters, treasure and knowledge, and players must create their own characters to participate in these. Based on the d20 system, players go through a series of steps and rules to create all of the characteristics required to make a character with all of the necessary attributes needed. All of this information will be stored on an appropriate medium, such as a character sheet, for future reference. An example of a popular RPG is that of Dungeons and Dragons.

Throughout game play with the character, certain aspects of the characters change due to occurring factors such as battles and discoveries. Players must continually update their character sheets to keep up with these changes, which can prove to be difficult at times, especially if a character is 'levelling up'. Many attributes and statistics affect each other, so each change that is made needs to be checked to ensure it will not impact on another. Without the appropriate tools this process can be time-consuming, but unfortunately cannot be avoided and must be completed after each campaign the character participates in. Is there an easier way to do this?

Yes there is! The *d20 character generation and maintenance program* allows you to all of this quickly and easily, and requires no pen-and-paper work to do it. For those wanting to create a new character, the program conveniently splits character generation into 10 sections for easier working. The program ensures all entered values comply with the rule set of the chosen d20 game, informing you instantly if there is a problem. *D20 character generation and maintenance program* also allows you to edit saved characters for when changes to characters statistics need to be made. Also with the built-in functionality of random character generation for a quick alternative to character creation, all of your character needs are catered for in this program.

The *d20 character generation and maintenance program* can be used for all of the popular d20 system role-playing games, including Dungeons and Dragons and d20 modern.

PLEASE NOTE: The d20 character generation and maintenance program is designed as an aid to anyone wishing to create characters from various d20 system RPGs. It is assumed that all users of this program have at least a minimal knowledge and understanding of their chosen d20 game, as no rules are provided for viewing within this user manual or program help system. Minimal information about certain abilities and statistics can be found in the glossary.

Getting started

The *d20 character generation and maintenance program* main menu allows you to access all three sections of the program with the click of a button. There is also a menu located across the top of the screen that can be accessed at any stage of the program. There are three sections to the program:

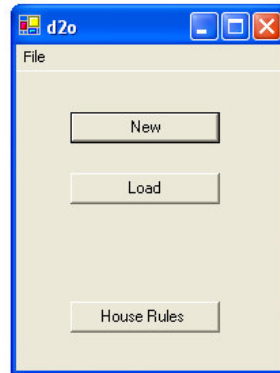


Figure 1.1 The main menu

- o Create a new character,
- o Open and edit an existing character,
- o Create and enter house rules.

For information on how to use these sections of the program, please see the appropriate pages of this user manual.

Understanding your screen

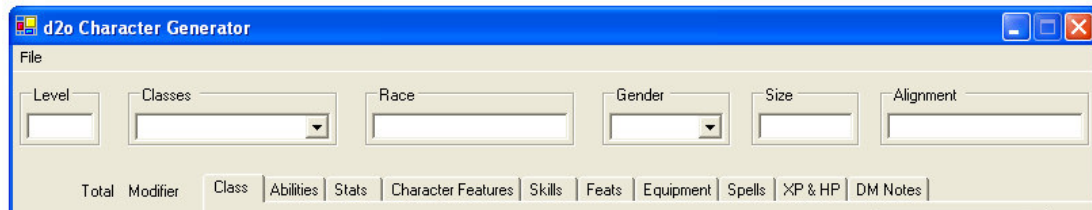


Figure 2.2 Main character attributes and statistic sections

There are two main screen areas that you will use within the character statistics screen. Across the top of the screen, you will see 5 selection boxes containing the base values of your new character. These include:

- o *Level* – Current character level/experience, i.e. 1st,
- o *Class* – Previously chosen character class, i.e. bard,
- o *Race* – Previously chosen character race, i.e. human,
- o *Gender* – Gender of new character, i.e. male,
- o *Size* – Size bracket character falls into, i.e. medium,
- o *Alignment* – Alignment of new character, i.e. lawful good.

Below this is the main working area, which will display all of the characters information. There are ten tabs that break all statistics into appropriate sections, a brief summary of each follows.

- o 1. *Class* Eleven basic classes forming the basic character,
- o 2. *Abilities* Six base abilities determining characters strengths,
- o 3. *Stats* Calculate combat statistics for character
- o 4. *Character Bio* Physical attributes of the character,
- o 5. *Skills* Special tasks a character is good at performing,
- o 6. *Feats* Special moves and abilities a character is good at,
- o 7. *Equipment* Management / purchasing / equipping of current items,
- o 8. *Spells* Spells obtained by the character,
- o 9. *XP & HP* Experience points determining level,
hit points determining characters health,
- o 10. *DM Notes* Quick notes about the character for the DM.

Information on all of these sections follows, for information on each please see the corresponding sections of the manual.

Creating a new character

Character creation forms the basis for playing role-playing games such as Dungeons and Dragons. However, the process of creating a new character from scratch can be a complicated one. With so many attributes to record, the newly created character can quickly become hard to manage. With the character generation and maintenance program, you can break down the creation process into sections, making tracking of information quicker and easier.

The creation process is broken up into 10 different sections, where you can enter and select all of your new characters attributes. For more detailed information on each section, see the appropriate sections later in this chapter. These sections include:

- Class / race / alignment
- Abilities
- Statistics
- Character features
- Skills
- Feats
- Equipment
- Spells
- Experience and hit points
- DM Notes

See the following sections for more information.

Class / race / alignment

The screenshot shows the 'd20 Character Generator' window. At the top, there are input fields for 'Level', 'Classes' (a dropdown), 'Race' (a dropdown), 'Gender' (a dropdown), 'Size' (a dropdown), and 'Alignment' (a dropdown). Below these is a tabbed interface with tabs for 'Class', 'Abilities', 'Stats', 'Character Features', 'Skills', 'Feats', 'Equipment', 'Spells', 'XP & HP', and 'DM Notes'. The 'Class' tab is active. On the left, there are input fields for 'Total' and 'Modifier' for each of the six stats: STR, DEX, CON, INT, WIS, and CHA, plus an 'HP' field. In the center, there are two large empty rectangular boxes for class selection, with 'Add' and 'Remove' buttons between them. On the right, there is a 'Race' dropdown menu, a 'Race Benefits' link, and an 'Alignment' dropdown menu. At the bottom right are 'Cancel' and 'OK' buttons. A 'Class Requirements:' link is visible at the bottom left of the class selection area.

The first screen allows the user to choose the base information for their character – their race, class and alignment. A character has the ability to cross-class, which allows their character to have more than one class. There are three requirements to set on this screen:

- *Race* – each character can be one race only. Select your race from the drop-down menu on the right side of the screen. Some races may have some additional character benefits – if this is the case they will be displayed underneath the menu.
- *Class* – each character can have one or more classes. To add a class, first select it from the list on the left and then click the add button. To remove a class, select it from the current list on the right and then click the remove button.
- *Alignment* – the alignment of a character determines the nature and behaviour the character role plays in campaigns. Some classes and races require the character to be a certain alignment, so note this when choosing both your race and class.

Once you have selected your race, class and alignment, click the ok button to keep the settings. To revert back to any previous selections, click the cancel button.

Setting abilities

The screenshot shows the 'd20 Character Generator' window with the 'Abilities' tab selected. The interface includes a 'File' menu, a 'Level' input field, a 'Classes' dropdown, a 'Race' input field, a 'Gender' dropdown, a 'Size' input field, and an 'Alignment' input field. Below these are tabs for 'Class', 'Abilities', 'Stats', 'Character Features', 'Skills', 'Feats', 'Equipment', 'Spells', 'XP & HP', and 'DM Notes'. The 'Abilities' tab displays a table with columns for 'Total', 'Modifier', 'Class', 'Abilities', 'Stats', 'Character Features', 'Skills', 'Feats', 'Equipment', 'Spells', 'XP & HP', and 'DM Notes'. The table shows the following values:

	Total	Modifier	Class	Abilities	Stats	Character Features	Skills	Feats	Equipment	Spells	XP & HP	DM Notes
STR	0	0										
DEX	0	0										
CON	0	0										
INT	0	0										
WIS	0	0										
CHA	0	0										
HP	0											

Below the table, there are sections for 'Earned Abilities' and 'Inherent Abilities'. The 'Earned Abilities' section shows a value of 0 to 0, with a dropdown menu set to 'STR' and a level of 0. The 'Inherent Abilities' section shows a value of 0 to 0, with a dropdown menu set to 'STR' and a level of 0. There are buttons for 'Add Earned', 'Add Inherent', and 'Remove'. At the bottom right, there are 'Cancel' and 'Apply' buttons.

Ability scores are the basic values for many of the actions (i.e. skills, feats, spells) within role-playing games. There are 6 base abilities that every character will possess, each with different levels that will determine their strengths and weaknesses. These include strength (STR), dexterity (DEX), concentration (CON), intelligence (INT), wisdom (WIS), and charisma (CHA).

Normally ability scores are determined by taking an average of 3 rolls of a dice appropriate to the chosen class. To select your base abilities, first select how many rolls you want to calculate the average from (standard is 3), then click the apply button to roll the scores. Depending on some character statistics, you will automatically receive some ability modifiers to your base scores. The final values are shown on the left of the screen.

Combat statistics

The screenshot shows the 'd20 Character Generator' window. At the top, there are dropdown menus for Level, Classes, Race, Gender, Size, and Alignment. Below these are tabs for Class, Abilities, Stats, Character Features, Skills, Feats, Equipment, Spells, XP & HP, and DM Notes. The 'Stats' tab is selected. On the left side, there are input fields for 'Total' and 'Modifier' for STR, DEX, CON, INT, WIS, and CHA, as well as an 'HP' field. The main area displays various combat statistics with their respective formulas and a 'user' box for manual adjustment. The statistics shown are: Init (Initiative), Fort (Fortitude), Ref (Reflex), Will (Will), AC (Armor Class), Melee (Melee attack), and Ranged (Ranged attack). Each statistic has a formula involving base, mod, feats, magic, and user components. The 'Base Speed' is shown as 20 ft.

This screen contains the basic combat statistics for your character. All of these values are determined by other characteristics such as race and class selection, spells and items. You can use the user box at the end of each row to manually alter these values if you wish. This screen contains information on the following statistics:

- *init* – also known as initiative, this value determines the combat order of the players within a battle. The higher a players initiative the more likely they are to go into battle first.
- *base speed* – this value is determined through a combination of the characters chosen race and the weight of equipment they are carrying. Once a character reaches a certain weight, their base speed will drop.
- *saving throws* – these are a roll used to avoid a particular form of damage, and include fortitude (physical), reflex (agility) and will (mind). These are normally based on the class you choose, but are also modified by other statistics.
- *attack type* – there are two types of attack within the game. Ranged deals with attacks made by ranged weapons, such as a bow and arrow. Melee deals with attacks made physically through close combat. These values are determined completely by character statistics and cannot be modified by the user.

Character features

Every character you create is unique, and as well as it being important for them to have good combat statistics, their personal identity is also an important part of the character creation process. This section is broken up into 5 sections, including:

- o *Biography* – the physical attributes and description of the character, including their vital details, campaign details and if desired a visual image representation.
- o *Features* – Class information, and miscellaneous settings for some class values.
- o *Languages* – characters will, based on their race and class, have languages they automatically know, as well as a list of possible other languages they can learn.
- o *Gods & domains* – some characters will choose to follow in the practices of a certain god or deity, which will give them powers and spells.
- o *Companion* – some classes will allow the character to have an animal companion to accompany them on their adventures.

Character features – Biography

The screenshot shows the 'd20 Character Generator' window. At the top, there are input fields for Level, Classes, Race, Gender, Size, and Alignment. Below these is a tabbed interface with tabs for Class, Abilities, Stats, Character Features, Skills, Feats, Equipment, Spells, XP & HP, and DM Notes. The 'Character Features' tab is active, and within it, the 'Bio' sub-tab is selected. On the left side of the window, there are input fields for various statistics: STR, DEX, CON, INT, WIS, and CHA, each with a 'Total' and 'Modifier' column, and an HP field at the bottom. The main area of the 'Bio' tab contains fields for Player's Name, Character's Name, Campaign, Age, Weight, Height (in feet and inches), Eye Colour, and Hair Colour. At the bottom of this section are two large empty rectangular boxes, likely for character images or descriptions.

Every character is unique, so each character will, as well as their game statistics, have a physical description. Each character will have its own name, as well as the players' name, and if the character was created for a specific campaign that can also be added to the characters details. Information can also be stored on their hair and eye colour, weight, height and age.

You can also choose to represent your character with an image file.

Character features – Features

This section contains any special information about your character. For each class, any special information will be displayed in the window to the left of the screen. This section also allows you to choose special values for certain classes. These include the following:

- Ranger favoured enemy
- Bard weapon proficiency
- Rogue special abilities
- Racial weapon proficiency



For each of the above, to select a value for any that may be appropriate to your current character class, click the select button. This will display the following window.

The window will list the items that you can select to set for that value, i.e. the enemies a ranger can select as their favoured enemy.

To set, first select the value you wish to use, then click the apply button to set the value.

Character features – Languages

The screenshot shows the 'd20 Character Generator' window. At the top, there are fields for Level, Classes, Race, Gender, Size, and Alignment. Below these are tabs for various character features: Bio, Features, Languages, Gods & Domains, and Companions. The 'Languages' tab is currently selected. On the left side, there are input fields for six statistics: STR, DEX, CON, INT, WIS, and CHA, each with a 'Total' and 'Modifier' column, and an HP field. The main area of the 'Languages' tab is divided into two large empty boxes. Between these boxes, there are controls for 'Language Points' (a value of 0) and 'Language Skill Points' (a value of 0). There is a checkbox labeled 'Allow Negative' which is currently unchecked. Below these are three buttons: 'Add Language', 'Add From Skills', and 'Remove'.

When a character is first created, they automatically inherit a set amount of languages in which they can speak. They are also assigned a number of language points, which they can use to learn other languages. The amount of language points is shown on the screen, as well as the amount of language skill points – this number relates to the Speak Language skill that can be obtained by the character.

If the player wishes to add more languages than they have skill points for – for example an item they pick up gives them the ability to speak a given language – you can check the ‘allow negative’ box to allow you to add more languages if your language points are down to zero.

To add a language, first select it from the list on the left and click the add language button. To remove a language, select it from the currently known list on the right and click the remove language button.

The Speak Language skill points, separate to normal language points, occur when the character obtains the Speak Language skill. This allows them to learn further languages to what their current characters statistics allow.

To add a language with the Speak Language skill points, first select it from the list on the left and click the add from skills button. To remove the language, first select it from the currently known list on the right and click the remove language button.

Character features – Gods & domains

The screenshot shows the 'd20 Character Generator' window. At the top is a 'File' menu. Below it are dropdown menus for 'Level', 'Classes', 'Race', 'Gender', 'Size', and 'Alignment'. The main interface has a series of tabs: 'Class', 'Abilities', 'Stats', 'Character Features', 'Skills', 'Feats', 'Equipment', 'Spells', 'XP & HP', and 'DM Notes'. The 'Character Features' tab is selected, and within it, the 'Gods & Domains' sub-tab is active. On the left, there are input fields for stats: STR, DEX, CON, INT, WIS, CHA, and HP, each with a 'Total' and 'Modifier' column. The 'Gods & Domains' sub-tab contains two large text boxes for listing deities and domains, each with 'Add' and 'Remove' buttons. A 'Points' box is located between the two text boxes.

There are several deities/gods that characters can be associated with, and each deity is associated with a number of domains, which are used within spellcasting for classes such as sourcerers, wizards and clerics. Each god has a particular alignment that its followers must be, as well as favoured classes and races. The top two windows contain the gods, while the bottom two windows contain domains.

Your selection for a deity will be based on your characters alignment. The available deities will be displayed in the top-left window. To add a deity, select it and press the add button. To remove a god, select your current god and click remove.

Once you have selected your god, all of the associated domains will be shown in the bottom-left window. You can select as many domains based on the number of points shown in the points box. To add a domain, first select the domain, then press the add button. To remove a domain, select the current domain and press the remove button.

Character features – Companion

The screenshot shows the 'd20 Character Generator' window. At the top is a 'File' menu. Below it are several input fields: 'Level', 'Classes' (a dropdown), 'Race', 'Gender' (a dropdown), 'Size', and 'Alignment'. A row of tabs follows: 'Class', 'Abilities', 'Stats', 'Character Features', 'Skills', 'Feats', 'Equipment', 'Spells', 'XP & HP', and 'DM Notes'. The 'Character Features' tab is selected, and within it, the 'Companions' sub-tab is active. This sub-tab contains a large empty text box on the left, a smaller empty text box on the right, and two buttons labeled 'Add' and 'Remove' between them. Below the right text box is a label 'Benefits:'. On the far left, there are input fields for 'Total' and 'Modifier' for the stats STR, DEX, CON, INT, WIS, and CHA, as well as an 'HP' field.

Some classes will allow the character to have an animal companion after they reach a certain level. Each class will have a list of animal companions to choose from, which will be displayed in the left window.

To add a companion, first select the companion from the list on the left, then click the add button. To remove, select the current companion and click the remove button.

Skills

The screenshot shows the 'd20 Character Generator' window with the 'Skills' tab selected. At the top, there are input fields for 'Level', 'Classes', 'Race', 'Gender', 'Size', and 'Alignment'. Below these are tabs for 'Class', 'Abilities', 'Stats', 'Character Features', 'Skills', 'Feats', 'Equipment', 'Spells', 'XP & HP', and 'DM Notes'. On the left side, there are input fields for 'Total' and 'Modifier' for each of the six abilities: STR, DEX, CON, INT, WIS, and CHA, as well as an 'HP' field. The main area is a large empty box for skill management. On the right side, there is a 'Points' input field showing '0', and 'Add' and 'Remove' buttons. At the bottom right, there is a 'Max Ranks' button and a checked 'Enforce Max' checkbox.

When a character is first created, they are given a set number of skill points to allocate to a new set of skills. As the characters progresses up through levels and experiences, they obtain further points. A character can have many low-powered skills, or very few high-powered skills – this depends on how the player distributes their skill points. The number of assigned skill points is shown in the points box.

To obtain a new skill, first select it from the list. Each skill point you add to the skill will increase the power of the skill. Click the add button to keep adding skill points, or click remove to remove the skill point. If you wish to add the maximum amount of skill points to a skill, first select the skill then press the max ranks button. Checking the ‘enforce max’ box will use up only the skill points you currently have available, preventing your points lowering past zero.

Feats

The screenshot shows the 'd20 Character Generator' window with the 'Feats' tab selected. At the top, there are input fields for Level, Classes, Race, Gender, Size, and Alignment. Below these are tabs for Class, Abilities, Stats, Character Features, Skills, Feats, Equipment, Spells, XP & HP, and DM Notes. The Feats tab is active, showing a list of available feats on the left and a list of currently known feats on the right. The left list has columns for 'Total' and 'Modifier'. The right list has columns for 'Feat Points' and 'Bonus Feat Points'. There are buttons for 'Add Feat', 'Add Bonus Feat', and 'Remove'. A checkbox for 'Allow Negative' is also present. At the bottom, there is a checkbox for 'Disable Feat Prerequisites'.

A character can choose specific abilities in which they are proficient – these are called feats. Feats are chosen based on the number of feat points available, and many rely on prerequisites of other feats being acquired beforehand. Based on your characters statistics you will be allocated a certain number of feat points to allocate to your feats.

To add a feat, first select it from the left window, then click the add feat button. Note that you will only be allowed to add the feat if you have all of the current feat pre-requisites, shown in the bottom-right corner of the screen. To remove the feat, select it from the currently known list on the right and click the remove feat button.

If the player wishes to add more feats than they have skill points for – for example they earn an additional feat on a campaign – you can check the ‘allow negative’ box to allow you to add more feats if your feat points are down to zero.

The Bonus Feat points, separate to normal feat points, occur when the character obtains the Bonus Feat skill. This allows them to learn further feats to what their current characters statistics allow.

To add a feat with the Bonus Feat points, first select the feat from the list on the left, and then click the bonus feat button. To remove the feat, select it from the currently known list on the right and click the remove feat button.

If you wish to disable feats requiring any prerequisites before addition to your characters profile, check the ‘disable feat prerequisites’ box.

Equipment

Once a characters statistics have been determined, they can be fitted out with some equipment to use in their adventuring. Items can be obtained through purchase with money gathered through adventuring, or other means such as discovering or acquiring items for free. This section covers the following:

- Purchasing different types of equipment
 - Purchasing magical items
- Selling current items
- Equipping items
- Managing player funds

- **Equipment – Purchasing**

Through this menu you can both purchase new items and sell items your character currently owns. This encompasses all types of item – simple items, weapons, armour, shields and magical items. This screen also shows you your current weight, and depending on your chosen race and class it will show what load you are carrying.

The top window will contain items that you can purchase, while the bottom window will show your current inventory of items. Your current funds are also shown in the bottom left of the screen. Magical weapons require more information than is displayed on this screen, see the magical items section of the manual for more information.

To buy an item, first select the type of item you would like to purchase – weapon, armour, shield, or miscellaneous. A list of items will then appear in the top window, showing the information on each item. Select the item you wish to purchase and click the buy button to add to your current inventory. The item will then appear in the bottom window. The cost price of the item will then be subtracted from your funds.

A variety of items may be masterworked – if you wish an item you are purchasing to be masterworked, before buying the item first check the ‘masterworked’ box, then click the buy button.

To sell an item, first select it from your current inventory then click the sell button. The sale price of the item will then be added to your funds.

Equipment – Equipping

The screenshot shows the 'd20 Character Generator' window. At the top, there are input fields for Level, Classes, Race, Gender, Size, and Alignment. Below these are tabs for Class, Abilities, Stats, Character Features, Skills, Feats, Equipment, Spells, XP & HP, and DM Notes. The 'Equipment' tab is selected. On the left, there are input fields for STR, DEX, CON, INT, WIS, and CHA, each with a 'Total' and 'Modifier' column. Below these are buttons for 'Equip', 'Equip in Group' (with a dropdown menu set to '1'), and 'Unequip'. The main area of the window is divided into two large empty rectangular boxes, likely for displaying equipment lists.

You can carry many different items within your inventory at once, so in order to choose what you will be using on a given adventure you must first equip them. You can also choose to create different equipment groups, which you can switch between to make equipping large groups of items quickly.

To equip an item, first select it from your current inventory in the top window and then click the equip button. If you wish to equip the item to a particular group, select the item, then the group number you wish to place it in, then click the equip in group button. The item should then be displayed in the bottom window, showing all of your currently equipped items.

To unequip an item, select it from the current equipped items list and then click the unequip button.

Equipment – Funds

The screenshot shows the 'd20 Character Generator' window with the 'Funds' tab selected. The interface includes a top bar with a 'File' menu and a row of dropdown menus for Level, Classes, Race, Gender, Size, and Alignment. Below these are tabs for Class, Abilities, Stats, Character Features, Skills, Feats, Equipment, Spells, XP & HP, and DM Notes. The 'Funds' tab is active, showing a section for 'Add / Subtract Funds' with a text input field containing '0', a currency dropdown set to 'GP', and 'Add' and 'Subtract' buttons. To the left of this section are input fields for character statistics: STR, DEX, CON, INT, WIS, CHA, and HP, each with 'Total' and 'Modifier' columns. Below the 'Add / Subtract Funds' section is a 'Total Funds' section with four input fields for PP, GP, SP, and CP.

This screen allows you to manage your current funds. Currency is calculated in four different currencies – platinum, gold, silver and copper pieces. Once your character has completed an adventure, they may acquire some funds along the way. These can be manually added here. You may also need to remove funds if you have depleted them along the way.

To change your current funds, first select the currency you will be adding, then enter the amount. If you wish to add the value, click the add button. If you wish to subtract the value, click the subtract button.

Character Spells

The screenshot shows the 'd20 Character Generator' window. At the top, there are input fields for Level, Classes, Race, Gender, Size, and Alignment. Below these are tabs for various character attributes: Abilities, Stats, Character Features, Skills, Feats, Equipment, Spells, XP & HP, and DM Notes. The 'Spells' tab is selected. On the left, there are input fields for Total and Modifier for STR, DEX, CON, INT, WIS, and CHA, as well as an HP field. In the center, there is a large empty box for spell selection. To the right of this box, there is a 'Spell Points' section with a value of 0 and 'Add' and 'Remove' buttons. At the bottom, there are two rows of input fields: 'Spells Known' and 'Spells Per Day', each with a column for each level from 0th to 9th.

	0th	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Spells Known:	0	0	0	0	0	0	0	0	0	0
Spells Per Day:	0	0	0	0	0	0	0	0	0	0

Some classes (including sorcerers, paladins and bards) have the ability to cast magical spells. When creating a new character, you will have a number of spell points, which will allow you to select spells for your character to use in battle, and as your character gains more experience and levels, they will gain further spell abilities. Spell selection will also depend on your current characters level.

There are two displays at the bottom of the page – spells known and spells per day.

To add a new spell, first select a spell you wish to add – note that you can only choose spells that are the same level as your character or below – then click the add button. To remove a spell, select it from the current spells list and click the remove button.

Experience Points and Hit Points

The screenshot shows the 'd20 Character Generator' application. The 'Stats' tab is active, showing a table of ability scores (STR, DEX, CON, INT, WIS, CHA) with 'Total' and 'Modifier' columns, all set to 0. There are 'Add' and 'Subtract' buttons for the stats. Below the table is a 'Level Up' button. At the bottom, there is a large empty text box for DM Notes and a section for Hit Points (HP) calculation: HP = mod + misc + roll, with an 'Apply' button.

Character levels are determined by the amount of experience a character has earned, which is represented through their experience points (XP). This experience is gained throughout campaigns and adventures the character participates in. Once the character levels up, they receive several benefits, including an increase in base attack, additional skill / feat points, and spell capabilities, depending on the race and class of the character. A character can also die, and will receive an XP penalty, where they will be required to remove experience points.

After a character has completed an adventure, to update their experience points first enter the figure into the top number combo box then click the add button. If you wish to remove experience points, first enter the figure into the same number combo box then click the subtract button.

If you have enough experience points (XP) to level up, the display box directly below will show the level number you can reach based on your current experience points. To level your character up to the new level, click the level up button.

The characters hit points are also shown here. This figure is pre-determined by other aspects of the characters statistics and cannot be directly changed.

Dungeon Master Notes

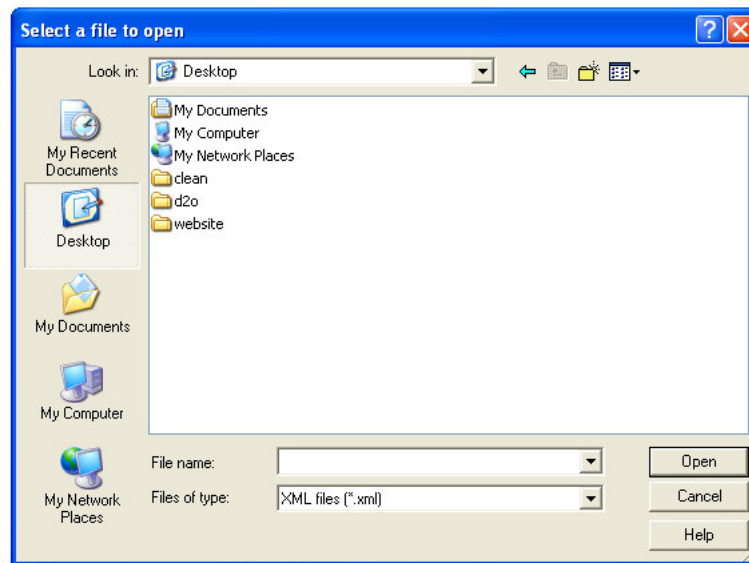
The screenshot shows the 'd20 Character Generator' window. At the top, there's a 'File' menu. Below it, a row of input fields for 'Level', 'Classes' (a dropdown), 'Race', 'Gender' (a dropdown), 'Size', and 'Alignment'. A tabbed interface follows, with tabs for 'Class', 'Abilities', 'Stats', 'Character Features', 'Skills', 'Feats', 'Equipment', 'Spells', 'XP & HP', and 'DM Notes'. The 'DM Notes' tab is currently selected, showing a large text area labeled 'DM Notes:'. To the left of this area, there's a section for ability scores and HP. It includes labels 'STR', 'DEX', 'CON', 'INT', 'WIS', 'CHA', and 'HP'. Each label has two input boxes: 'Total' and 'Modifier'. All these boxes currently contain the number '0'.

It is important for the Dungeon Master of a campaign to have information about each of the characters participating in the adventure. Quite often they are given a copy of the character sheet for each player's character, which they must scan for information when they are in the middle of the game.

This section of the program aims to create a summary for the DM, listing all of the frequently referenced values in one central location – allowing them to find the information quicker, saving time in extracting it out from the character sheet itself.

All information for this is drawn from the character creation process – if you wish to change any values here you must first change them in the appropriate section, which will automatically update the DM notes screen.

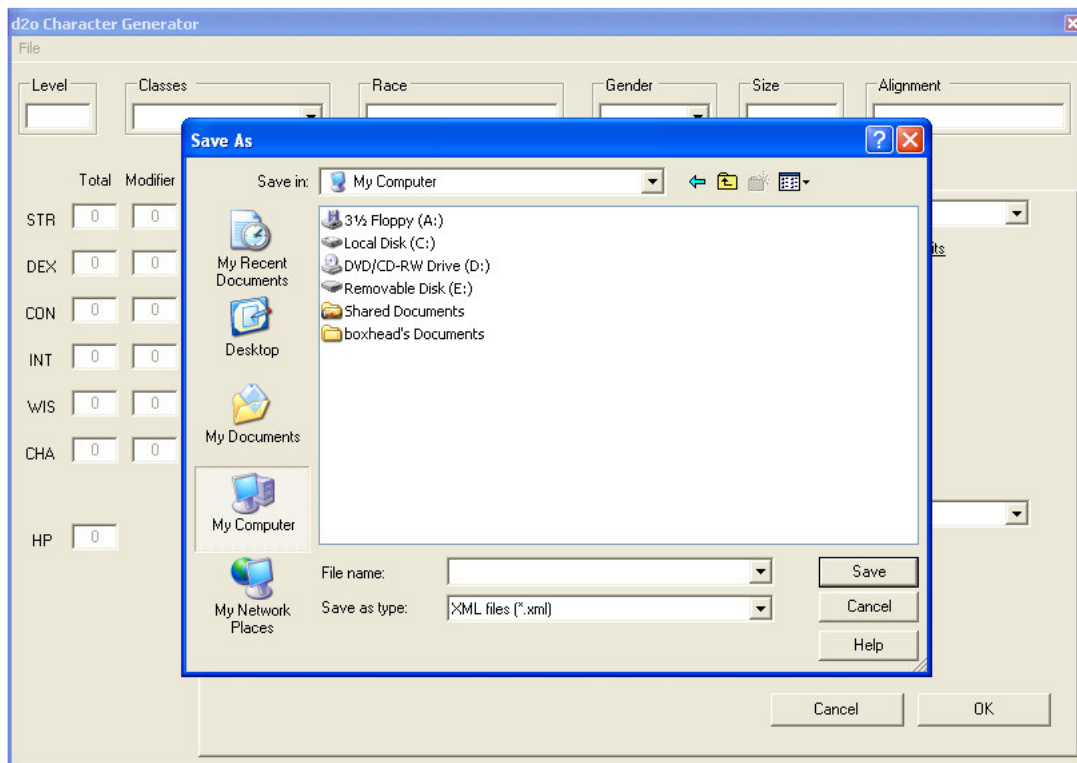
Editing an existing character



The d20 character generation and maintenance program allows you to edit any previous character files you have created. To edit a previously saved character file on the main menu click on the open button, which will bring up the open file dialogue. Locate the character file you would like to modify, and then click the open button to open the character file into the program.

You can also open an existing character file whilst modifying another character file. Please note that you will need to save the current file before opening another file, otherwise any changes you make will be lost. To open an existing character file, go to the file menu and select open. Locate the character file you would like to modify, and then click the open button to open the character file into the program.

Saving a character



Once you have created your new character, or finished editing an existing character, you can save their information into a character file. This will allow you to access the characters details at a later date, allowing you to make modifications to the characters statistics without needing to re-enter all of their details.

To save a characters statistics to a new file, go to the file menu and select save. Choose the location of the character file, select a file name and click save to make a new file. If you wish to overwrite a file, locate and select the file and click save.

About the project



Team d20

Front: Mark Boxall and Michael Tonini

Back: Mark Hellmund, Mavis Shaw and Caleb Avery

Team d20 are a group of third year SITACS (School of Information Technology and Computer Science) students and close friends currently studying at the University of Wollongong. The d20 character generation and maintenance program has been created in association with the major project component of the Computer Science and Information Technology degrees, and must be completed as a core subject.

All members of the team have backgrounds and interests in multiplayer computer gaming and lanning, including RPG games, and also in computer system design, programming and development. With all of these skills, they have combined to produce a user-friendly alternative to current paper-based methods to allow quicker and easier game play for RPG players.

Meet the team

Caleb Avery – Currently studying a Bachelor of Computer Science, Calebs' specific assigned group role is of primary systems developer.

Caleb has work extensively with the back-end of the application, and has been lead programmer for the group, compiling the development teams code segments into the final back end and then linking it to the Graphical User Interface. He was in charge of the overall back-end code, assigning tasks for the development team to complete. Caleb has also contributed throughout the design process, as well as documentation.

Mark Boxall – Currently studying a Bachelor of Computer Science and Bachelor of Arts (majoring in graphic design), Marks specific assigned group role is of project manager, as well as GUI design and creation.

As project manager, Mark has endeavoured to keep the team focused on the job at hand. He has also been involved in the GUI development and programming, forming the front-user end of the application. Mark also contributed to the project with the design of the current projects website, and graphical designs for the project tradeshow – including posters, presentation shows and film clips.

Mark Hellmund – Currently studying a Bachelor of Computer Science, Marks specific assigned group role is of secondary systems developer.

Mark has been working closely with Caleb throughout the development process. As the other lead team developer, he has contributed significantly to the development of the back-end of the application. As opposed to Caleb, Mark worked in developing some of the larger, more extensive programming tasks. He has also contributed throughout the design process, as well as documentation.

Mavis Shaw –Currently studying a Bachelor of Information and Communications Technology (majoring in Business Information Systems and Software Engineering), Mavis' specific assigned group role is of systems analyst and documentation.

Mavis has played a crucial role in communications between group members. She has been lead designer for the project, moderating many of the group meeting and development session and assisting the team throughout the development process. She has also been in charge of documentation in the form of user and technical manual creation. Mavis also contributed to the back-end development of the application.

Michael Tonini –Currently studying a Bachelor of Information and Communications Technology (majoring in Business Information Systems and Networking), Michaels' specific assigned group role is of business analyst and systems development.

Contributing to all aspects of the project, Michael has been the 'handyman' of the team. He has assisted Mavis with the main design documentation throughout the entire project, and also taken minutes at group meetings. Michael has also worked closely with Caleb and Mark in development, contributed significantly to the back-end of the application.

Glossary (taken from the D&D V3.5 Rulebook)

- o **Ability** – One of the six basic character qualities: Strength (Str), Dexterity (Dex), Constitution (Con), Intelligence (Int), Wisdom (Wis) and Charisma (Cha)
- o **Alignment** – One of the nine descriptors of morality for intelligent creatures: lawful good (LG), neutral good (NG), chaotic good (CG), lawful neutral (LN), neutral (N), chaotic neutral (CN), lawful evil (LE), neutral evil (NE), and chaotic evil (CE).
- o **Arcane spell** – Arcane spells involve the direct manipulation of mystic energies. Bards, sorcerers and wizards cast arcane spells.
- o **Armour Class (AC)** – A number representing a creatures ability to avoid being hit in combat. An opponents attack roll must equal or exceed the target creatures Armour Class to hit it.
- o **Barbarian** – A class made up of ferocious warriors who use inborn fury and instinct to bring down foes.
- o **Bard** – A class made up of performers whose music and poetics produce magical effects.
- o **Charisma (cha)** – The ability that measures a characters force of personality, persuasiveness, personal magnetism, ability to lead, and physical attractiveness.
- o **Character** – A fictional individual within the confines of a fantasy game setting.
- o **Class** – One of the eleven player character types – barbarian, bard, cleric, druid, fighter, monk, paladin, ranger, rogue, sorcerer or wizard. Class defines a characters predominant talents and general function within an adventuring party.
- o **Cleric** – A class made up of characters that cast divine spells and are also capable in combat.
- o **Constitution (con)** – The ability that represents a characters health and stamina.
- o **Copper pieces (CP)** – The most prevalent form of currency among beggars and labourers. Ten copper pieces are equivalent to 1 silver piece.
- o **Dexterity (dex)** – The ability that measures a character's hand-eye coordination, agility, reflexes and balance.
- o **Divine spell** – Spells of religious origin powered by faith or by a deity. Clerics, druids, paladins and rangers cast divine spells.
- o **Druid** – A class made up of characters that draw energy from the natural world to cast divine spells and gain special magical powers.
- o **Dungeon Master (DM)** – The player who portrays non-player characters, makes up the story setting for the other players, and serves as a referee.
- o **Experience points (XP)** – A numerical measure of a characters personal achievements and advancement. Characters earn experience points by defeating opponents and overcoming challenges.
- o **Feat** – A special feature that either gives your character a new capability or improves one that he or she already has.
- o **Fighter** – A class made up of characters that have exceptional combat capability and unequalled skill with weapons.
- o **Flat-footed** – Especially vulnerable to attacks at the beginning of a battle. Characters are flat-footed until their first turns in the initiative cycle. A flat-footed creature loses its Dexterity bonus to AC (if any) and cannot make attacks of opportunity.
- o **Fortitude save** – A type of saving throw, related to a characters' ability to withstand damage thanks to his physical stamina.
- o **Gold pieces (GP)** – The primary unit of currency used by adventurers.

- o **Initiative** – A system of determining the order of actions in battle. Before the first round of combat, each combatant makes a single initiative check. Each round, the participants act in order from the highest initiative result to the lowest.
- o **Intelligence (int)** – The ability that determines how well a character learns and reasons.
- o **Level** – A measure of advancement or power applied to several areas of the game.
- o **Masterwork** – Exceptionally well made, generally providing a +1 enhancement bonus on attack rolls (if the item is a weapon or ammunition), reducing the armour check penalty by 1 (if the item is armour or a shield), or adding +2 to relevant skill checks (if the item is a tool).
- o **Melee** – Melee combat consists of physical blows exchanged by opponents close enough to threaten one another's space, as opposed to ranged combat.
- o **Modifier** – Any bonus or penalty applying to a die roll. A positive modifier is a bonus, and a negative modifier is a penalty. Modifiers from the same source do not stack, and modifiers with specific descriptors generally do not stack with other of the same type. If more than one modifier of a type is present, only the best bonus or worst penalty in that grouping applies. Bonuses or penalties that do not have descriptors stack with those that do.
- o **Monk** – A class made up of characters that are masters of the martial arts and have a number of exotic powers.
- o **Paladin** – A class made up of characters that are champions of justice and destroyers of evil, with an array of divine powers.
- o **Platinum pieces (PP)** – A form of currency not in common circulation but occasionally found as treasure. One platinum piece is equivalent to 10 gold pieces.
- o **Ranged attack** – Any attack made at a distance with a ranged weapon, as opposed to a melee attack.
- o **Ranger** – A class made up of characters that are particularly skilled at adventuring in the wilderness.
- o **Reflex saves** – A type of saving throw, related to a character's ability to withstand damage thanks to his agility or quick reactions.
- o **Rogue** – A class made up of characters that primarily rely on stealth rather than brute force or magical ability.
- o **Size** – The physical dimensions and/or weight of a creature or object. The sizes, from smallest to largest, are fine, diminutive, tiny, small, medium, large, huge, gargantuan and colossal.
- o **Silver pieces (SP)** – The most prevalent form of currency among commoners. Ten silver pieces are equivalent to 1 gold piece.
- o **Skill** – A talent that a character acquires and improves through training.
- o **Sorcerer** – A class made up of characters who have inborn magical ability.
- o **Speed** – The number of feet a creature can move when taking a move action.
- o **Spell** – A one-time magical effect. The two primary categories of spells are arcane and divine.
- o **Strength (str)** – The ability that measures a character's muscle and physical power.
- o **Touch attack** – An attack in which the attacker must connect with an opponent but does not need to penetrate armour. May be either melee or ranged.
- o **Will save** – A type of saving throw, related to a character's ability to withstand damage thanks to his mental toughness.
- o **Wisdom (wis)** – The ability that describes a character's will power, common sense, perception and intuition.
- o **Wizard** – A class made up of characters that are schooled in the arcane arts.