

Warcraft : Tower Defense Map Editor User Guide

Revision History

Version	Date	Description
0.1	1/19/07	Initial beta release

Table of Contents

Getting Started.....	4
Meeting the requirements.....	4
Starting the editor.....	4
Planning a map.....	4
Creating a new map.....	5
Creating monsters.....	6
Creating towers.....	6
Defining tower upgrades.....	7
Creating rounds.....	7
Creating evolutions.....	8
Creating clans.....	8
Using the Map design editor.....	9
Opening the map design editor.....	9
Creating a map.....	9
Creating collision maps.....	10
Creating waypoints.....	11
Building a map.....	11
Adding a map to the binary (if you use PAFS).....	11
Modifying the ADD MAPS.bat file.....	12
Testing maps.....	12
Editor Reference	13
Map Properties.....	13
Texts.....	13
Map type.....	13
Map properties.....	14
Gameplay properties.....	14
Design properties.....	15
Monsters properties.....	16
Monster 1.....	16
Resistances/Immunes.....	16
Towers properties.....	18
Tower 1.....	18
Special effects.....	20
Rounds properties.....	22
Evolutions properties.....	22
Evolution 1.....	22
Towers.....	23
Clans properties.....	24
Clan 1.....	24
Evolutions.....	24
Map design editor properties.....	25

Design properties.....	25
Tiles properties.....	26
Customizing maps.....	27
Customizing tilesets.....	27
Customizing other graphics and sounds.....	27

Chapter 1

Getting Started

In this chapter:

- ▶ Learn how to install and start the editor
 - ▶ Learn how to create a basic map
 - ▶ Learn how to use the Map design editor
 - ▶ Understand the parts: towers, upgrades, monsters, rounds, evolutions, and clans
 - ▶ Learn how to create each part
-

Meeting the requirements

You must install .NET 2.0 Framework to run the map editor and to append the maps to the binary: <http://msdn2.microsoft.com/en-us/netframework/aa731542.aspx>

You must have a Windows computer that meets the requirements for the .NET 2.0 Framework: [http://msdn2.microsoft.com/en-us/library/ms229070\(VS.80\).aspx](http://msdn2.microsoft.com/en-us/library/ms229070(VS.80).aspx)

Starting the editor

Download the game from <http://ndswtd.wordpress.com/download/>.

1. Unzip the game onto your hard drive.
2. Double-click \$WTDHOME/Editor/WTD Editor.exe.

The editor appears.

Planning a map

As easy as the WTD Editor is to use, you should plan a map before creating all the parts of a map, especially for more complicated maps. A good map will need to balance tower attack and bonuses with the monsters' hit points, armor, and resistances/immunities. Some other things to consider include the following:

- Given the costs of your towers, is the player earning too much or too little gold with both monster kills and round completions?
- Does the difficulty of the rounds progress smoothly? Or are there huge leaps in difficulty?
- Is there a logical variety to the rounds and monsters? Does the map have a theme or feel? Or does it seem random?
- Does the map force the player to make some strategic choices?

- Are the tower locations obvious? Is the monster paths completely predictable (the first time through, at least)?
- Does the player have to choose among different sets of towers?
- Does the player get a variety of rewards--additional lives, gold, tower upgrades?
- Is the descriptions for towers and rounds informative? Do they help create expectations?
- Is the map logical, and is it interesting? Can monsters go places where they shouldn't logically go?

Creating a new map

A map requires a minimum of the following:

- One round
- One evolution
- One clan
- Two waypoints (start and end)
- One monster
- One tower

However, after you create a basic map, you should use more than one of each to create a more interesting map. But let's get started creating a map. This section explains the basics for creating towers, monsters, evolutions, and clans. You should create them in the order listed, though you may need to edit previous elements.

For descriptions of all the fields and buttons, see “Map Properties.”

1. Click **New map**.
The currently loaded map is closed, and a new, blank map is created.
2. In the Map Properties tab, give the map a name.
3. At a minimum, you must define the following Gameplay properties:
 - Lives at start—must be at least 1
 - Max towers at start—must be at least 1
4. At a minimum, you must define the following Map properties which define where the game view is centered:
 - Start view X
 - Start view Y

IMPORTANT: You can only define these start properties after you have created a map.

5. After defining these basic properties, click **Save Map**.

TIP: The editor does not automatically save, so save your work often.

Creating monsters

Monsters are . . . monsters. You can create a variety of monsters so that you can give rounds and evolutions their own feel and difficulty.

For descriptions of all the fields and buttons, see “Monsters properties.”

1. In the Monsters tab, click **Add**.
The new monster appears in the monster list.
2. Enter a unique name for the monster.
The monster name is updated simultaneously in the monster list.
3. At a minimum, you should enter values for the following:
 - Life
 - Armor
4. For diverse monsters, set the properties as described in “Monsters properties.”

Creating towers

The towers are what the players control. When creating towers, keep in mind what types of monsters you create. You may need to create and edit your towers after you create the monsters. This balance is part art and part science. You do not want towers that easily defeat your monsters, but you also do not want towers that cannot destroy the monsters. For example, if you create flying monsters, you should have at least one tower with air attack.

Consider these areas of balance between towers and monsters:

- Attack speed vs. walk speed
- Reload time vs. walk speed
- Special effect type vs. resistances/immunities
- Minimum and maximum damage vs. life and armor

TIP: Before you start setting tower properties, think of a tower as a type of character which has traits. This can help you create diverse towers and give some “personality” to your map.

For descriptions of all the properties and buttons, see “Towers properties.”

1. In the Towers tab, click **Add**.
The new tower appears in the tower list. The default tower has no minimum or maximum damage, no cost for building, and no special effects.
2. Enter a unique name for the tower.
The tower name is updated simultaneously in the tower list.
3. At a minimum, you should enter values for the following:
 - Cost
 - Max damage
4. To create more diverse towers, define the remaining properties as described in “Towers properties.”

Defining tower upgrades

You can add further interest to your map by creating tower upgrades. Players can use the upgrades immediately after building the first tower, as long as they have the gold to pay for building the upgrade (which is the value set for **Price** in the Towers tab).

1. In the Towers tab, select a base tower for which you want to allow upgrades.
2. Click **Upgrades**.

The Tower upgrades dialog appears.

3. Select an upgrade tower from the pulldown list.
4. Click **Add**.

The selected tower is added to the Upgrades list.

5. Click **Ok**.

The selected tower now has upgrades available.

Creating rounds

A map is played as a sequence of rounds. Think of rounds as levels. Structuring the rounds is very dependent on the type of towers and monsters you have created.

Keep in mind the following when creating rounds:

- Make the rounds increasingly difficult. Do not rely on simply more monsters to increase the difficulty. Create monsters of varying, even incremental difficulty.
- Use minor bosses in intermediate rounds.
- Vary the rounds. Don't use the same type, spawn rate, and number of monsters. Also, consider what type of towers the player has available. It's possible that 10 flying monsters are more difficult than 30 grunts.
- Use a good boss in the final round.

For descriptions of all the fields and buttons, see "Rounds properties."

1. In the Rounds tab, click **Add**.

The new round appears in the round list.

2. Enter a description for the round.
3. At a minimum, you should enter values for the following:

- Number of monsters to spawn--If you use the default of 0, then no monsters appear in your most excellent map.

4. Define values for all the round properties.

See "Rounds properties."

Creating evolutions

An evolution is a set of towers that the user can build. As the name suggests, evolutions are earned and can provide the player additional towers throughout the game. However, evolutions are not free (except for the first one). After the player completes a round, the second evolution is available to the player. The third and subsequent evolutions are not available until the player purchases the preceding evolution. The player pays a price to be able to use towers in the evolution, in addition to the price for building a tower.

Evolutions can share towers, but each evolution should have some unique tower to make the cost of buying the evolution worthwhile. Evolutions cannot have more than one tower with the same name.

Allowing players to earn new towers is a good way to build variety and interest in your map. It can also create some tension: If you give players some new towers, they will likely anticipate harder monsters in the next round.

IMPORTANT: You must have at least one evolution. If a map has no evolutions, the player cannot build any towers.

You can create a maximum of 64 evolutions, and each evolution can have maximum of 11 towers.

For descriptions of all the fields and buttons, see “Evolutions properties.”

1. In the Evolutions tab, click **Add**.
The new evolution appears in the evolution list.
2. Enter a unique name for the evolution.
The evolution name is updated simultaneously in the evolution list.
3. At a minimum, you should define the following:
 - **Towers > Add**—If you do not add towers, the player can't kill the monsters.
4. For diverse evolutions, set the properties as described in “Evolutions properties.”

Creating clans

A clan is a set of evolutions. If there is more than one clan, the player is prompted to choose one at the beginning of the map. The player cannot change later in the same game.

For example, you decide to build four clans: Northmen, Elves, Dwarves, and High Elves. You create an assortment of ice, arrow, gunpowder, and fire towers. You then organize them into starter, intermediate, and advanced evolutions. Next, assign the evolutions to the clans as follows:

- The Northmen clan has Starter Ice Towers, Journeyman Ice Towers, and Master Ice Towers.
- The Dwarves clan has Starter Gunpowder Towers, Journeyman Gunpowder Towers, and Master Explosive Towers.
- The Elves clan has Starter Arrow Towers, Journeyman Arrow Towers, and Master Piercing Towers.
- The High Elves clan has Starter Fire Towers, Journeyman Fire Towers, and Master Flame Towers.

Clans cannot have more than one evolution with the same name.

IMPORTANT: You must have at least one clan. You can create a maximum of 8 clans, and each clan can have a maximum of 8 evolutions.

For descriptions of all the fields and buttons, see “Clans properties.”

1. In the Clans tab, click **Add**.
The new clan appears in the clan list.
2. Enter a unique name for the clan.
The clan name is updated simultaneously in the clan list.
3. At a minimum, you should enter values for the following:
 - **Evolutions > Add**—If you do not add evolutions, the player can't kill the monsters.
4. To create more diverse clans, define the remaining properties as described in “Clans properties.”

Using the Map design editor

You have now created all the basic elements of a map . . . except for the map itself. This section explains how to create a map in the Map design editor. Consider the following requirements when designing maps:

- Towers must have 3x3 spaces to be built. Monsters and other towers should not be in that space.
- Monsters must have at least one space to be able to walk.
Any tower that blocks the monster path is automatically sold and removed from the map. Use the tower collision maps to prevent players from putting towers that block paths. It is a good idea to create player collision maps around waypoints.

For descriptions of all the fields and buttons, see “Map design editor properties.”

Opening the map design editor

1. In the Design tab, click **Edit**.
The Select a size dialog appears.
2. Enter the number of pixels for the height and width.
3. Click **Ok**.
The Map design editor appears.

Creating a map

1. In the Map designer editor, click **Design**.
2. From the **Theme** list, select a theme for the tiles.
You can have only one tileset per map.
To use a custom tileset, see “Customizing maps.”

3. Click **Tiles**.

The different available tiles are displayed in the tile palette. Because you cannot rotate tiles, the palette provides both horizontal and vertical versions of edges and roads.

4. Click a tile in the palette.
5. In the map, click to paint the selected tile.

Action	Procedure
To paint several tiles	Hold the left mouse button and drag.
To select and copy tiles painted in the map	<ol style="list-style-type: none"> 1. Press and hold SHIFT and the right mouse button . 2. Drag the cursor to select tiles. 3. Release to copy the selected tiles.
To select an area and paste tiles	<ol style="list-style-type: none"> 1. Press and hold SHIFT and the left mouse button. 2. Drag the cursor to select tiles. The paste selection does not have to match the size of the copied tile selection. 3. Release to paste the selected tiles.
To file the entire map with a tile	<ol style="list-style-type: none"> 1. Select a tile in the palette. 2. In the map, right-click and select Fill entire area.

Creating collision maps

Collision maps are tiles where players or monsters cannot move or play. WTD has two types of collision maps:

- Monster collision maps—tiles where monsters cannot walk.
- Tower collision maps—tiles where the player cannot place a tower.

Use collision maps to prevent monsters from walking on water or other naturally passable areas. You can potentially use collision maps to force players to think more strategically. For example, you can prevent players from putting towers in the obvious strategic locations. But the collision maps should be logical, based on the tiles you've used.

TIP: You should at least create monster and tower collision maps for water or as a border. You should also create tower collision maps around waypoints.

1. In the Map designer editor, click **Design**.
2. In the Collisions maps area, select **Monsters** or **Towers**.
3. In the map, left-click to tiles to make them unusable.

TIP: If you hold the left mouse button, you can paint several tiles as you move the mouse.

4. To undo, right-click tiles to make them usable.

5. When you have completed the collision maps, make sure that **Towers** and **Monsters** are unchecked. Otherwise, you cannot paint tiles from the tile palette or use other normal map features.

Creating waypoints

Waypoints are used to create paths so that monsters have a direction of movement. Monsters appear at Waypoint 1 and they move to Waypoint 2. They then move through the waypoints sequentially until they reach the last one.

IMPORTANT: Every map must have at least two waypoints to use as start and end points.

You are better off creating too many waypoints than too few. Avoid putting waypoints too far from each other; otherwise, the monsters have difficulty following the path.

TIP: Try keeping waypoints within a dozen or so tiles of each other.

1. In the Map designer editor, right-click a tile in the map.
The popup menu appears.
2. Select **Add waypoint**.
3. The waypoint is added to the map and is numbered.
In the Design view, the waypoint is listed with its coordinates.
4. To delete, right-click a waypoint, and select **Delete waypoint**.
To add waypoints in between existing ones, select a waypoint in the list, and add a waypoint.

Building a map

Maps are saved as XML files, but you have to compile your map and its artifacts into a .tdm file so that it can be played.

1. When you completed all the requirement elements for a valid map, click **Build Map**.
2. The Build map browser appears.
3. Make sure that the file is saved to the Maps folder.
4. Enter a name for the build file, and click **Save**.
The .tdm file is saved.

Adding a map to the binary (if you use PAFS)

To play the map, it must be part of a .nds or .gba binary file, which players can then play. (You can also just make the .tdm file available and allow players to add the .tdm to their own binaries.)

1. Save the .tdm to the Maps/ folder, which is in the same folder as the ADD MAPS.bat file.
2. Double-click the ADD MAPS.bat file.

An .nds file is created. By default, the binary file name is TowerDefense.nds. The map is part of the .nds file and is ready to play. The map is listed in the map list after the game is started.

Modifying the ADD MAPS.bat file

You can modify the ADD MAPS.bat file. You should not need to change other commands in this batch file.

Property	Description
To change the output file name	To change the GBA name, change the following line: ren Newbin1.dat TowerDefense .ds.gba To change the DS name, change the following line: ren Newbin2.dat TowerDefense .nds
To change the location of the .tdm files	Change the following lines: PAFS bin1.dat Maps / /silence > nul PAFS bin2.dat Maps / /silence > nul

Testing maps

To test a map, you must build it, create the binary, and load it onto your flash card.

Currently, the .nds and .gba files for this game do not work with emulators.

Chapter 2

Editor Reference

In this chapter:

- ▶ Learn the purpose and effects of all the properties
 - ▶ Learn the purpose of all the buttons
-

Map Properties

Texts

These properties define the introductory text that the player sees when loading your map.

Property	Description
Map name	Enter a unique name for the map. The name appears in the list of maps to select and in the game under Menu.
Welcome Message	Enter the message that appears after the game starts.
Presentation msg	Enter the message that appears after the player clicks on the map to play. This message appears before the welcome message and is the real introduction to the map. Put your most important information here.
Simple presentation screen	Click to use only the first five lines defined in Presentation msg (including blank lines).

Map type

Currently, only the Solo mode is available.

Property	Description
Solo mode	Enable the one-player mode.
Multi versus mode	Not available
Multi cooperative mode	Not available

Map properties

Property	Description
Map width	Check the width (in pixels) of your map. You can only view this after you have created a map in the Map design editor. This is a non-editable field.
Map height	Check the height (in pixels) of your map. You can only view this after you have created a map in the Map design editor. This is a non-editable field.
Start view X	Enter the number of the square that is centered horizontally when the map is started. Use the Map design editor to identify the X, Y coordinates for the starting view. You can only set this after you have created a map in the Map design editor.
Start view Y	Enter the number of the square that is at the top of the view when the map is started. You can only set this after you have created a map in the Map design editor.
Minimap width adjust	This is a non-editable field.
Minimap height adjust	This is a non-editable field.
Spawn X position	On the X axis (horizontal), view the location where the monsters spawn. This is the location of waypoint 1. This is a non-editable field.
Spawn Y position	On the Y axis (vertical), set the location where the monsters spawn. This is the location of waypoint 1. This is a non-editable field.

Gameplay properties

Property	Description
Amount of gold at start	Define how many gold the player is given at the start of the game. The player must have enough gold to build at least one tower.
Lives at start	Define how many lives the player starts the game with. For each monster that reaches the end waypoint, a life is subtracted. When the lives equals 0, the game is over. This should be set to at least 1.

Property	Description
Sell percentage	<p>Define how much gold the player is given when removing, or selling, an existing tower. This is a percentage of the build cost of the tower. The sell price rounds downward.</p> <p>For example, if the Sell percentage is 70 and if the original cost is 1, the player receives 0 gold for selling the tower.</p> <p>Players have to sell towers if the towers block the monsters path.</p>
Max towers at start	<p>Define the maximum number of towers that a player can have at any one time.</p> <p>This should be set to at least 1. Evolutions can increase this maximum. Also, towers with the Add max tower bonus effect can increase the maximum number of towers.</p>
Initial delay	<p>Define the number of seconds before the monsters appear at the start of the first round.</p>
Timed gold mode	<p>Select to enable the player to earn gold for each second during the round. The gold accumulates for each second during the initial delay, for the length of time it takes to destroy all the monsters, and during the delay between the first and second rounds.</p> <p>In the standard mode, gold is awarded at the end of the round.</p>
Initial bonus	<p>When Time gold mode is enabled, define how much gold the player receives per second.</p>

Design properties

Property	Description
Edit	<p>Click to open the current map in the Map design editor.</p>
Resize	<p>Click to change the pixel width and height of the current map.</p> <p>Pixels are added to and deleted from the right and bottom of the current map.</p>
Size	<p>View the pixel width and height of the current map.</p> <p>This is a non-editable field.</p>
Minimap	<p>Check a preview of the minimap as it appears in the game.</p> <p>This is a non-editable field.</p>

Monsters properties

Monster 1

Property	Description
Number of monsters	View the total number of unique monsters in the current map. This is a non-editable field.
Name	Enter the name of the monster. This name is also used to name the round when you select Monster type in the Rounds tab.
Invisible	If checked, the monster is invisible to the player. A tower must have the Reveal special effect to make the monsters visible.
Anim speed	Select the speed of the monster's animation. The monster's walk speed is not affected.
Walk speed	Select how fast the monster moves on the map.
Gold bonus	Define how many gold the player receives for killing the monster.
Life	Set the hit points for the monsters. This should be relative to the tower attack available in the round in which the monster appears.
Armor	Set the armor class for the monster. A tower's maximum normal damage has to be greater than the armor to be able to damage the monster. Armor does not affect magic attacks. The Pierce effect on towers reduces the armor. For example, if the monster's armor is 3 and if a tower does 0-3 damage, then that tower cannot damage the monster itself. If the tower does 0-4 damage, then, if the tower rolls an attack of 4, it reduces the monster's hit points by 1.
Type	Select the graphic used for the monster. This does not affect the monster's abilities or other properties.
Color	Set the color of the monster. This does not affect the monster's abilities.

Resistances/Immunes

Property	Description
Number of res/immunes	View the total number of immunities and resistances for the current monster. This is a non-editable field.

Property	Description
Type	<p>Select the the resistance or immunity from the pulldown list, and click Add. The resistances and immunities refer to the tower effects with the same name and do not refer to the tower's attack graphics.</p> <p>Resistances:</p> <ul style="list-style-type: none"> • Slow—Reduces the slow effect from a tower, including reducing the duration of the slow, offsetting the reduced movement speed, and increasing the delay between effects. • Poison—Reduces the POISON effect. • Water— Reduces the WATER effect. • Fire— Reduces the FIRE effect. • Lightning— Reduces the LIGHTNING effect. • Wind— Reduces the WIND effect. <p>Immunities:</p> <ul style="list-style-type: none"> • Normal—Takes no damage from standard attacks but does not prevent magic or poison damage. • Magic—Takes no damage from magic attacks (FIRE, WATER, LIGHTNING, and WIND) but does not prevent standard and POISON damage. • Pierce—Nullifies towers that have the PIERCE effect. The monster's armor is not reduced.
Imm param1/2/3	These properties vary depending on the type of resistance/immunity selected. See the list below. Immunities do not have parameters to define.
Num	Click to cycle through the resistances/immunities for the selected monster. Use this to review, edit, and delete.
Type	SLOW
Effect time malus (ms)	Set how long (in milliseconds) the slow effect is reduced by. 1000ms = 1 second.
Move delay malus (vbl)	<p>Define how many pixels to add to reduced monster movement. See Move delay for towers Special effects.</p> <p>For example, if a tower has a Move delay of 1 and an Effect delay of 0, and if the monster's Move delay malus is set to 0 and Effect delay malus is set to 1, the slow effect from the tower (50%) is reduced by half, so it will have a 25% speed reduction effect on the monster.</p>
Effect delay bonus (vbl)	Set the time to add (60 vbls = 1 second) between applying Move delay . See Effect delay for towers Special effects.
Type	POISON

Property	Description
Effect time malus (ms)	Set how long (in milliseconds) the poison effect is reduced by. 1000ms = 1 second. For example, if the tower's poison effect has an Effect time of 6000ms (6 seconds), then setting Effect time malus to 3000ms (3 seconds) reduces the slow effect to 3000ms.
Poison resistance	Set the amount of damage that the monster resists. For example, if a tower has a poison damage of 3-8 and a monster has a poison resistance of 2, then the tower's effect poison damage is reduced to 1-6.
Type	FIRE
Fire resistance	Set the amount of damage that the monster resists. For example, if a tower has a fire damage of 3-8 and a monster has a fire resistance of 2, then the tower's effect fire damage is reduced to 1-6.
Type	WATER
Water resistance	Set the amount of damage that the monster resists. For example, if a tower has a water damage of 3-8 and a monster has a water resistance of 2, then the tower's effect water damage is reduced to 1-6.
Type	LIGHTNING
Lightning resistance	Set the amount of damage that the monster resists. For example, if a tower has a lightning damage of 3-8 and a monster has a lightning resistance of 2, then the tower's effect lightning damage is reduced to 1-6.
Type	WIND
Wind resistance	Set the amount of damage that the monster resists. For example, if a tower has a wind damage of 3-8 and a monster has a wind resistance of 2, then the tower's effect wind damage is reduced to 1-6.

Towers properties

Tower 1

Property	Description
Number of towers	View the total number of unique towers in the current map. 40 towers is the maximum. This is a non-editable field.
Name	Enter a unique name for the tower.

Property	Description
min evolution	Set the minimum number of evolutions that this tower can be used in. You can use this tower in a lower evolution, but you cannot build this tower (icon is greyed) until you have upgraded to the indicated evolution.
Description	Enter a description of the tower. This is displayed in the game when you click the tower's properties.
Attack air	Select to enable the tower to attack flying monsters.
Attack ground	Select to enable the tower to attack walking, slithering monsters.
Attack type	Select the type of weapon or attack the tower uses. This is a graphic setting and does not modify attributes.
Attack sound	Select the sound played when the tower attacks. Click Play to hear the selected sound.
Attack speed	Define the movement speed of the attack, or projectile, itself.
Attack range	Set how far (in pixels) the tower can attack monsters. Each tile is 16 pixels. The radius is calculated from the center of the tower to the center of a monster. The minimum range to hit a monster is 32 pixels. The player sees this value when the tower icon is selected.
Reload time	Set the delay between attacks, or projectiles. The Reload time is defined in vbl units. 60 vbl = 1 second.
Price	Define the amount of gold required to build the tower. This price is also charged if the tower is an upgrade.
Min damage	Set the minimum damage that the tower can inflict. The player sees this as the low end of the damage (for example, 3-6) when the tower icon is selected.
Max damage	Set the maximum damage that the tower can inflict. The player sees this as the high end of the damage (for example, 3-6) when the tower icon is selected.
Choose gfx	Select the graphic that is used in the map where the tower is built.
Choose icon	Select the icon for the tower. The icon appears in the list of tower types that the player has built. 

Property	Description
Upgrades	Define what towers the selected tower can be upgraded to. A tower can have a maximum of 11 upgrades. For steps for how to add upgrades to a tower, see “Defining tower upgrades.”

Special effects

Property	Description
Number of special effects	View the total number of special effects for the current tower.
Type	Select the type of bonus assigned to the selected tower. See the list below for the types and their parameters.
Sp param1/2/3	These properties vary depending on the type of special effect selected. See list below for each type.
Add	Create a special effect for the selected tower. The special effects properties are then editable.
Remove	Delete the special effect from the selected tower.
Num	Click to cycle through the special effects for the selected tower. Use this to review, edit, and delete.
Type	ADD MAX TOWERS
Max towers bonus	Define how many extra total towers the player receive after buying the selected tower. For example, a player start out with a maximum of 4 towers. He buys a tower that has a Max towers bonus of 6. The player can then create a maximum of 10 towers.
Type	SLOW
Effect time (ms)	Set how long (in milliseconds) monsters move at a reduced speed.
Move delay (vbl)	Define how many pixels to reduce monster movement. Each vbl (60 vbls = 1 second), a monster move to a certain number of pixels, depending on the monster's Walk speed (NORMAL = 1 pixel). If you set Move delay to 1, the affected monster moves only 1 vbl every 2 vbls (reduced by 50%). If you set Move delay to 2, the affected monster moves only 1 vbl every 3 vbls (reduced by 66%).
Effect delay (vbl)	Set the time (60 vbls = 1 second) between applying Move delay . If you set Move delay to 1, and Effect delay to 1, the 50% speed reduction is applied 1 time every 2 (resulting in a 25% speed reduction). Think of the two delays as a sequence of a move and wait.

Property	Description
Type	POISON
Effect time (ms)	Set how long (in milliseconds) monsters have a poison effect.
Min damage	Set the minimum damage this effect has.
Max damage	Set the maximum damage this effect has.
Type	CRITIC
% chance of dbl damage	Set the likelihood of the tower doubling its damage.
Type	PIERCE
Armor malus	Define how much to reduce the monster's armor.
Type	FIRE
Min damage	Set the minimum damage this effect has.
Max damage	Set the maximum damage this effect has.
Type	WATER
Min damage	Set the minimum damage this effect has.
Max damage	Set the maximum damage this effect has.
Type	LIGHTNING
Min damage	Set the minimum damage this effect has.
Max damage	Set the maximum damage this effect has.
Type	WIND
Min damage	Set the minimum damage this effect has.
Max damage	Set the maximum damage this effect has.
Type	SPLASH
Radius	Set the radius (in pixels) of this effect. Any monsters within this radius of a monster that is hit also suffer the same damage.
Type	REVEAL
Radius	Set the radius (in pixels) of this effect. All invisible monsters within the radius are made visible.

Rounds properties

Property	Description
Number of rounds	View the total number of unique rounds in the current map. This is a non-editable field.
Comments	Enter a description of the round. Carriage returns are retained, but there is no text formatting. The player sees this message. Use it to create expectations.
Number of monsters to spawn	Define how many total monsters are created in the selected round.
Spawn rate	Define how frequently the monsters are spawned. <ul style="list-style-type: none">● SLOW = 2 seconds● NORMAL = 1 seconds● FAST = 0.5 seconds● VERYFAST = 0.25 seconds● CONTINUOUS = 0.16 seconds
Next round delay (in sec)	Define how many seconds before the first monster in the next round appears.
Monster type	Select the monster that spawns in this round. Only one monster type can spawn per round. The player sees this message beneath the round number.
Gold bonus	Define how many gold the player gets for completing the round.

Evolutions properties

Evolution 1

Property	Description
Number of evolutions	View the total number of unique evolutions in the current map. You can create a maximum of 64 evolutions, and each evolution can have maximum of 11 towers. This is a non-editable field.
Name	Enter the name of the evolution. The player does not see this name.
Info	Enter a description of the evolution. The player does not see this description.

Property	Description
Price	Set the gold required to switch to the evolution. This cost is subtracted from the player's gold only one time.
Max towers bonus	Define how many extra total towers the player receive after buying the selected evolution. For example, a player start out with a maximum of 4 towers. He buys an evolution that has a Max towers bonus of 6. The player can then create a maximum of 10 towers.
Required min round	Set the round at which the evolution is available to the player for purchase. This does not apply to the first evolution. For example, if Required min round is set to 3, then when round 3 starts, the evolution can be bought. Until then, it is not visible.
Choose icon	Select the icon to use when the evolution is available for the player to select and build from. This icon indicates that the evolution is available, but the player has not paid the gold for the evolution and, thus, cannot build towers in that evolution.  → Evolution icon
Choose build icon	Select the icon to use when the player has selected the evolution, has paid the gold price to use the evolution, and can build towers in the evolution.  → Evolution build icon

Towers

Property	Description
Number of towers	View the total number of unique towers in the current evolution. This is a non-editable field.
Add	Add the selected tower in the pulldown list to the evolution. All created towers are available, including ones used in other revolutions.
Remove	Delete the selected tower in the list of evolution towers.

Clans properties

Clan 1

Property	Description
Number of clans	View the total number of unique clans in the current map. The maximum is 8 clans, and each clan can have a maximum of 8 evolutions. This is a non-editable field.
Name	Enter a unique name for the clan. The player sees this name when the clan icon is clicked once.
Info	Enter a description of the clan. The player does not see this description.
Choose icon	Select an icon to associate with the selected clan.

Evolutions

Property	Description
Number of evolutions	View the total number of unique evolutions in the selected clan. This is a non-editable field.
Add	Add the selected evolution in the pulldown list to the clan. All created evolutions are available, including ones used in other clans.
Remove	Delete the selected evolution in the list of clan evolutions.

Map design editor properties

Design properties

Property	Description
Theme	<p>Select one of the predefined themes of tiles from the list.</p> <p>You can change the theme on a map after it is created without resetting, or removing, the existing tiles.</p> <ul style="list-style-type: none">• Grass_A: Grass and dirt tiles. Dirt tiles are lighter brown.• Grass_B: Grass and dirt tiles. Dirt tiles are orange-brown.• Ice_A: Snow and ice tiles. Ice is lighter blue.• Ice_B: Snow and ice tiles. Ice is darker blue.• Ruins_A: Stone and growth tiles. Growth is forest green.• Ruins_B: Stone and growth tiles. Growth is dark green.• Poison_A: Poisonous green tiles. Floor tiles are lighter green.• Poison_B: Poisonous green tiles. Floor tiles are darker green.• Dungeon_A: Red tiles. Floor tiles are darker red.• Dungeon_B: Red tiles. Floor tiles are lighter red.• Orange: Orange tiles.
Use custom tileset	<p>Select to open a file containing customized tiles.</p> <p>For more information, see “Customizing maps.”</p>
Collision maps	<p>Collision maps define tiles on which towers and monsters cannot play.</p> <p>For a description of how to create collision maps, see “Creating collision maps.”</p>
Monsters	<p>Click to designate tiles that monsters cannot travel on.</p>
Towers	<p>Click to designate tiles that towers cannot be built on.</p>
Waypoints	<p>View list of waypoints, their order, and coordinates.</p> <p>For a description of how to create waypoints, see “Creating waypoints.”</p>
Hide waypoints	<p>Click to hide the waypoints on the map in the editor.</p> <p>Hiding waypoints does not affect pathing when the map is built. This feature is only to modify the editor view.</p>

Tiles properties

Property	Description
Randomize base tiles	When checked, the tiles in the base set of tiles (first three rows) are randomly painted.

Chapter 3

Customizing maps

In this chapter:

- ▶ Learn how to customize tilesets for maps
-

Customizing tilesets

Yes, just do a 128*256 8-bit bitmap and save it in .bmp, .gif or .png format. Then, just use the “custom tileset” option in the editor and choose your own tileset

1. In the graphics editor of your choice, create a 128 x 256 8-bit bitmap of the tileset.
2. Save the image to a .bmp, .gif, or .png format.
3. In the Map design editor, click Design.
4. Click Use custom tileset.
The Choose an image browser appears.
5. Select the tileset image file.
6. Click Open.
The tileset is loaded into the Map design editor.
7. Paint tiles as described in “Using the Map design editor.”

Customizing other graphics and sounds

This customization is not available as this game already is near the RAM limit of the DS.
