

Technische Universiteit Eindhoven – Computer Science
OGO 2.3 (2IO60)

Magic Mushroom



Essentials

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<http://shroom.vanwal.nl/>

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1 Preface

This document gives a short overview of the Magic Mushroom game. It provides the reader with some essential elements of the game and its interface. We will start with a list of technical requirements, then say a word or two about configuration and the starting of a new game. After that a short description of the actual game is given.

2 Requirements

Our game was designed with compatibility in mind. Not only do we provide support for at least three different platforms, we also made the key mapping completely configurable, such that diverse people can play our game without adjusting their habits.

As said, the game should be able to run natively on three different platforms. Although it will most probably also run on others, we have only been able to test it on the following:

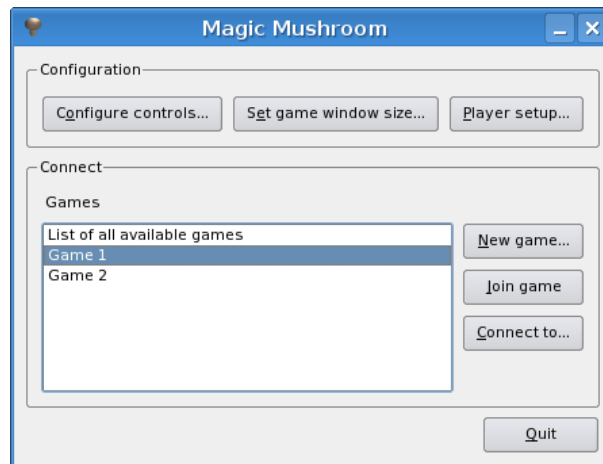
- Linux: extensively tested on x86 and amd64 processors, running Gentoo Linux. A binary will be available via the website (<http://shroom.vanwal.nl/>) soon.
- Windows: 2000 and XP (the game also runs in Windows 98 and Windows Vista, but these have not been tested extensively). An all-inclusive binary is provided for this platform.
- Mac OS X: tested in version 10.4 on Intel. An all-inclusive disk image is provided for the Intel architecture. The game will compile for the PPC architecture too, but we do not have a machine to test it on.

Further requirements are:

- A graphics card with hardware OpenGL acceleration to be able to run the game smoothly.
- A network interface card to be able to play the game with other people over a network.

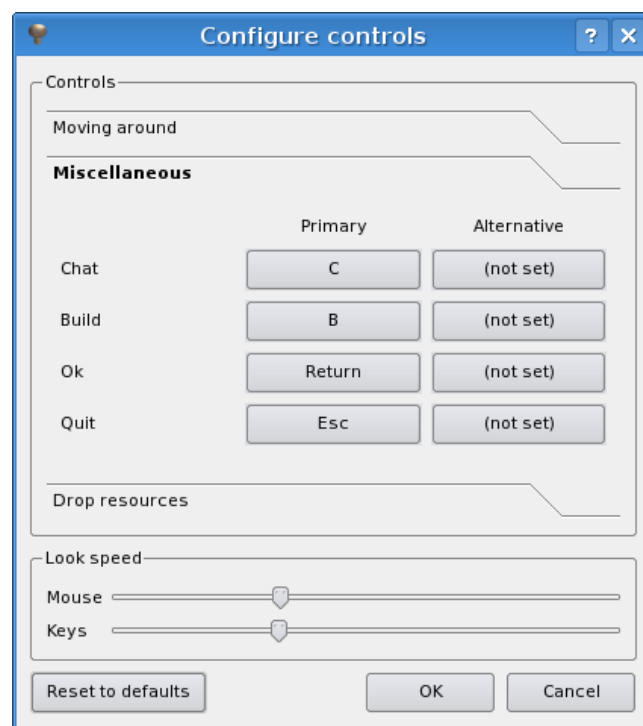
3 Configuration and starting of the game

When you run the program you will be presented an interface in which you can adjust the game to your preferences and start to play the actual game.



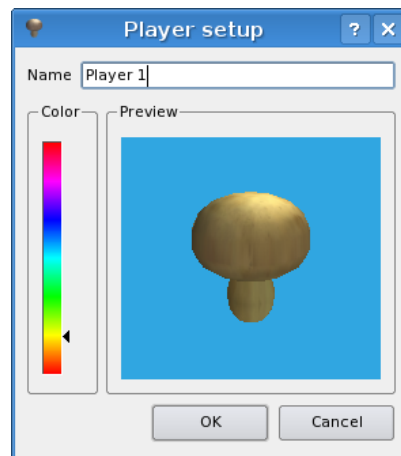
Configuration is split up into three parts, that can be accessed via the buttons at the top of the window:

- **Configure controls...** This button pops up a dialog with a list of game actions (such as jumping forward or dropping a resource), of which you can specify one or two keys that will map to that action. The list of actions is shown on the left, the “primary” key is shown in the middle and the “alternative” is shown on the right (there is no conceptual difference between a primary and an alternative key, they can both be used in the game as alternatives to eachother). If no key is set, **(not set)** will be displayed. You can change a key mapping by clicking the appropriate button and then pressing the key you want to associate with it. This can be any regular key (e.g. A, Ctrl or Tab, but not Fn) or mouse button.



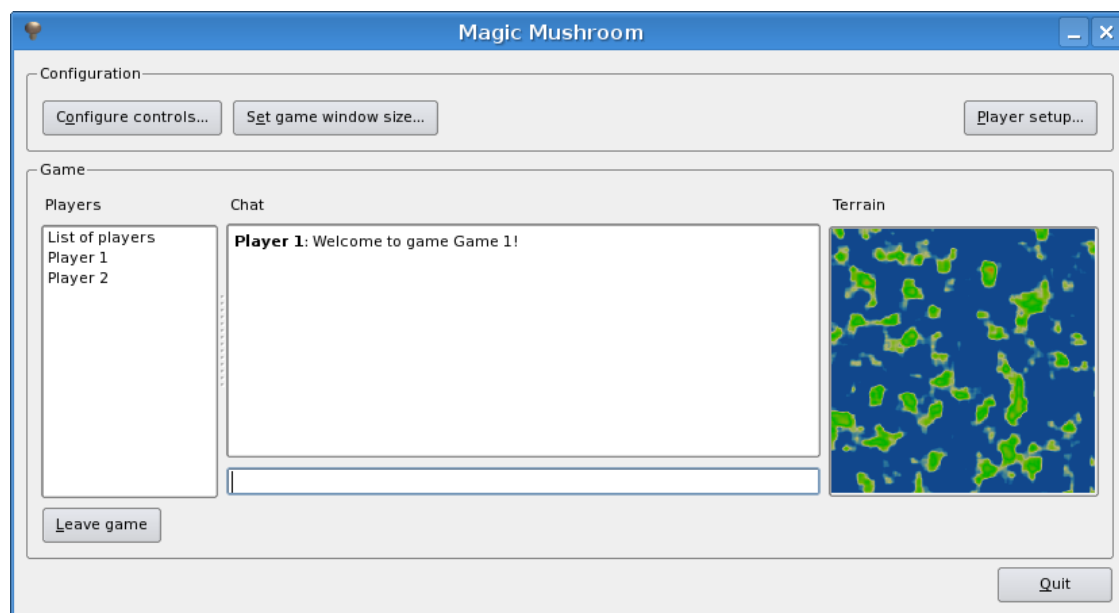
The actions are subdivided into three categories which can be accessed via the tabs at the top and bottom of the list. The last thing you can change in the dialog is the speed of looking around using the mouse and keyboard. By moving the sliders at the bottom of the dialog to the left or to the right, the speed of looking is respectively decreased or increased.

- **Set game window size...** The game's default is to cover the full screen. If you prefer a smaller size, you can select one by clicking this button and choosing a size.
- **Player setup...** This button pops up a dialog in which you can choose a player name and colour which will be used respectively for chat and status messages and as the colour of the mushroom you control. A preview of the mushroom in the specified colour can be seen too.



If there are other people in the neighbourhood who have started a game of Magic Mushroom, they will appear in the list in the middle of the main window. You can join a game by selecting it and pressing the **Join game...** button. If a game does not appear in the list, although there is a network connection between you and the remote computer that started the game, it is possible that the game announcements cannot reach you because of the network infrastructure (this will happen for example when one computer has a wireless connection and another one a wired connection). In this case, the **Connect to...** button will come in handy. If you know the IP address of the other computer, you can still join his game by typing in the address in the input box that appears when you click the button.

If you have joined a game, you will see a list of players that are currently in the game too. You can send chat messages to them by using the input field at the bottom and pressing enter to send the message. Messages from you and others, as well as status messages, will appear in the center area.



The game is played on a number of islands, separated by water (see also next section). This terrain is generated randomly and an overview is given on the right side of the window (blue indicates water, yellow, green and brown indicate land). A new terrain will be generated if the one who started the game clicks on the overview map.

You can leave a game by clicking the **Leave game** button. You will return to the view with the list of games.

If you want to start a new game yourself, you can press the **New game...** button. You will be asked for a name for the game, that is useful for other players on the network to recognise your game. If enough players have joined, you can start playing by pressing the **Start game** button. This button is only present if you are the one who started the game. If you want to play the game by yourself, you can just click this button immediately, although playing it alone is not really a challenge.

4 The game

When you start the game, you will see the mushroom you control, standing on an island (in the terrain that was in the preview on the last window). You look at the mushroom from a slight angle and can look around by moving the mouse or using the keys specified earlier. The mushroom can move around by jumping. When pressing the forward key (default: **W**) for example, you will make a “long distance” jump forward. In order to jump high instead of far, you can press the “High jump” key (default: **Space**), while pressing one or more of the “normal” jump keys to choose a direction. Because the mushroom needs to push off before jumping, you should hold the key(s) down for a while to make an actual jump.

4.1 Resources and flags

Your task is to conquer the most land, by placing flags on it. To be able to place flags you need resources. Because a flag is made of an iron stick with a piece of cloth attached to it, you need an iron and a wool resource to make a flag. Resources are visualised as slowly rotating boxes, moving up and down. You can pick one up by jumping into it. Once you pick up a resource, it will appear in the first empty position in the bar at the top of the screen. You can hold a maximum of 10 resources. If you have 10 resources and want to pick up another one, you have to drop a resource first, using one of the drop resource keys (default: numbers 0 to 9 for the respective resources, the resource number is drawn over every item in the resource bar).

To make a flag, you should first find a “flag building point”. This is a small, cylindrical socket, mostly found on hilltops. If you are near to one, and have enough resources, you can conquer the area surrounding the building point by pressing the build key (default: **B**), which slides in the build menu, and pressing the ok key (default: **Enter**) to build a flag.

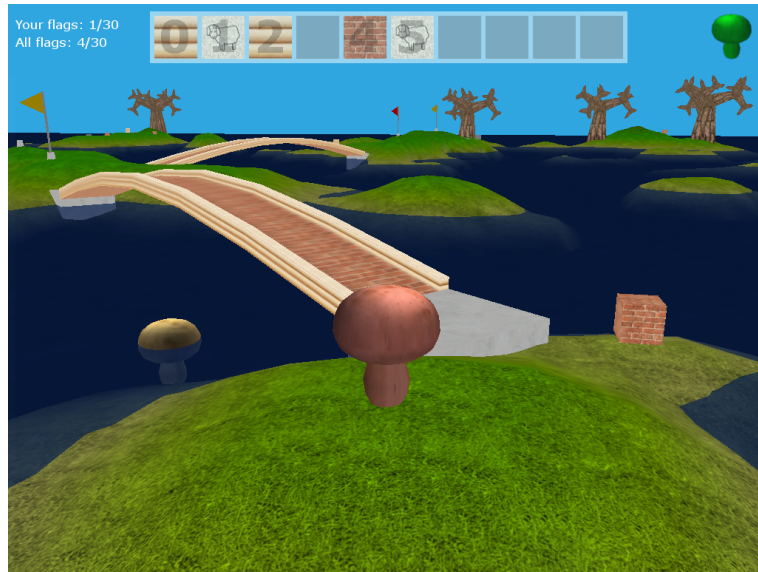
Except from iron and wool, there are two other types of resources: wood and stone. You need some of those to make a bridge between two coasts.

4.2 Bridges and drifting

Bridges can be used to move safely to other islands. If there is no bridge from the island you are on, there is another possibility except from building one: because mushrooms float in the water, you can drift to other islands by jumping in the water. The wind will then take you in its direction. Flags turn with the wind, so that you can see the direction in which the wind blows by looking at a flag.

You can come a long way just by floating around, but this is not without danger. If a mushroom stays in the water, it soaks up some, becomes heavier and will finally drown. An indication of the current weight of your mushroom is given in the top right corner of the screen. A green mushroom indicates that your mushroom is healthy with normal weight, a red mushroom indicates that he is overweight and will drown soon. If you drown, you will lose all your resources and gained land.

To prevent drowning, you can build a bridge to come to another island, but bridges are expensive to build alone (you need two wood and seven stone resources). By cooperating with other mushrooms in building bridges, you cannot only split up the resources between all participating players, but also spend less in total (you need two wood and four stone resources together).



A bridge can be built between two “bridge building points” which are square, concrete piers, found on coasts. These building points come in pairs, opposite to each other across a body of water. You can build a bridge when standing near to one of the bridge building points and pressing the build button and then the ok button to start building a bridge. To be able to cooperate in building, you will now see a list of players that are currently also wanting to build that bridge: either at the same building point or at the one opposite to it. You can now invest resources into the bridge to be built by moving the selection rectangle to the resource you want to invest using the look left and look right keys (default: **Left**, **Right**) and increase the investment by using the look up key (default: **Up**). You can also withdraw resources by using the look down key (default: **Down**). If enough resources are gathered (the numbers in the **Total** row will become green), the player who first invested resources will be able to finish the building by pressing the ok key again.

4.3 Butting with the head

Mushrooms can make a quick bow, such that their heads butt. This butting can be used to push around other mushrooms and is initiated using a press on the butt key (default: left mouse button). A mushroom will always bow in the direction it is looking to (forward, as seen from the player’s perspective). This butt can be quite powerfull when the target is very close and the butt is made in its direction. A mushroom can also be thrown away by another mushroom if the first is standing on the second.

4.4 Winning

The game ends when all areas are conquered (have flags in their respective building points), the player with the most flags wins the game.

4.5 Chat

To be able to make agreements on the building of bridges and for social activities, the program provides an in-game chat interface. You can open it using the chat key (default: **C**), which slides in the chat box on the left. You can then type your message and press enter to send it. If messages from other players arrive, the box will slide in as well, showing a list of recently received and sent chat messages and status messages.