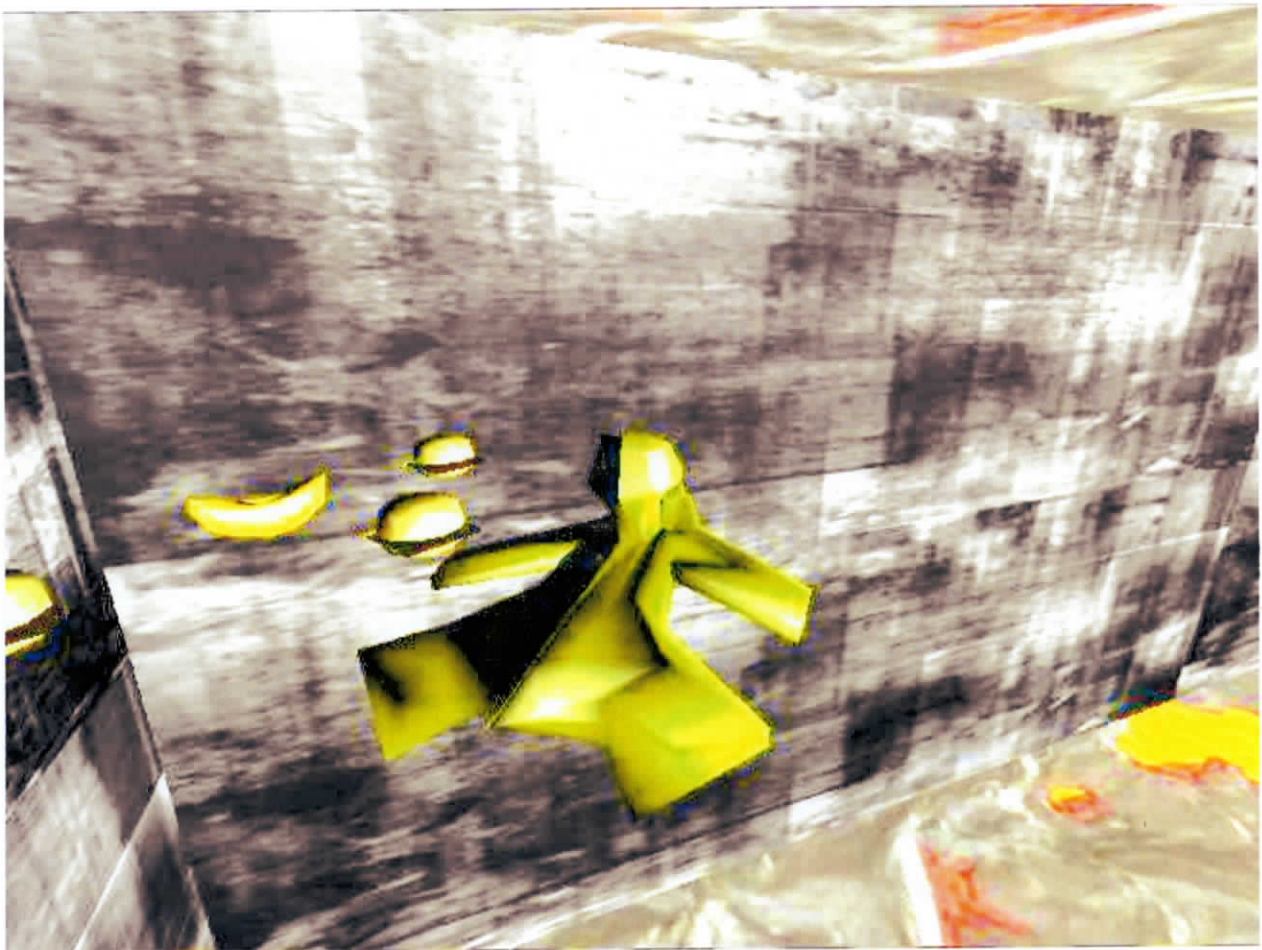# TECHNOLOGY STUDENT ASSOCIATION

2011 TSA Regional Conference

Video Game Design

Commbrad: The Quest for Food

Orlando, Florida

April 27- April 30

Table of Contents

How to Play

Getting started:
To start the game, put the disc in the disc drive and open "**Commbrad**". This will take you to the title screen.

Starting the Game:
Once at the title screen, use the arrow keys to select between the options "Start" and "Quit". Once an option is selected, press Enter. If Start is selected, you will continue on to the Act Select screen. If Quit is selected, the game will shut down. Alternatively, you can press ESC at any time to quit the game.

Act Select:
At the Act Select screen, pressing the number keys 1, 2, 3, 4, or 5 will highlight the respective Act number. To begin an Act, highlight it, and press enter. You can also press the B key to highlight the "Back" option. Pressing enter while Back is highlighted will bring you back to the title screen.

Act 1:
Upon selecting Act 1, you will find yourself under control of Commbrad from a side scrolling perspective. During Act 1, pressing the W and S keys will make Commbrad move up and down, respectively, while the A and D keys will make Commbrad move left and right. The goal in Act 1 is to collect the oranges, while avoiding the many cheeseburgers blocking your path. Collecting a cheeseburger will cause you to go up one fatness level, while collecting an orange will bring your fatness level down by one. If your fatness level reaches 8, collecting one more cheeseburger will end the Act, resulting in failure. In the Act, there are two instances in which you will come across a "Health Observation Gate". You can only pass through a Gate if you have collected a sufficient amount of oranges. The first Gate requires a minimum of 3 oranges, while the second requires 6. Attempting to go through the Gate without the required oranges will result in the failure of the Act. To achieve victory, you must pass through the second Gate. Upon doing so, you will be taken to the "Mission Complete" screen, followed by a return to the Act Select.

Act 2:
In Act 2, you control Commbrad from a top down perspective. Commbrad is constantly moving forwards. You can use the W and S keys to speed up or slow down, and the A and D keys to move from side to side. The goal in Act 2 is to collect the healthy foods (Oranges, Bananas) while avoiding unhealthy one (Cheeseburgers, Pizza, French Fries). Act 2 introduces the French Fry launchers. Failing to avoid a French Fry launched at Commbrad will raise your fatness level by 1/3. Collecting unhealthy foods will again raise your fatness level by one, while healthy foods lower it by one. Health Observation Gates from Act 1 return. The first gate requires you to collect 4 healthy foods to pass through, while the second requires 7. Upon passing the second gate, you will again be brought to the Mission Complete screen, followed by the Act Select.

Act 3:
In Act 3, Commbrad is controlled from a behind-the-back perspective. The W and S keys are again used to move up and down, while the A and D keys control side to side movement. As with the previous Act, the goal is to collect a sufficient number of healthy foods to be able to pass through the Health Observation gates, while avoiding unhealthy foods. Collecting unhealthy foods will raise Commbrads fatness level by 1. If his fatness level reaches 8, the Act ends in failure. The first Health Observation Gate requires that you collect 3 healthy foods to pass, while the second requires 7. After passing the second, you will again be brought to the Mission Complete Screen, followed by the Act Select.

Act 4:
Act 4 is controlled from an angled top down perspective. The WASD keys are again used for movement in all directions, while the left and right arrow keys are used to rotate left and right. The goal of Act 4 is to ascend a tower full of various foods. To ascend each level of the tower, Commbrad must collect enough healthy foods to be able to use a teleporter, which will teleport you to the next level of the tower. Each teleporter requires an increasing number of healthy foods to be collected to be used, the first requiring 1 healthy food, the second requiring 2, etc. Collecting unhealthy foods will effect Commbrad in the exact same way as in the last 3 Acts. If Commbrad's fatness level reaches 8, the level ends. When a sufficient amount of healthy foods has been collected, and the final teleporter has been touched, you will be brought yet again to the Mission Complete Screen, followed by the Act Select.

Act 5:

In Act 5, you control Commbrad in a fully 3D environment. You control Commbrad's forward and backward movement with the W and S keys, and his left and right movement with A and D. You can rotate Commbrad left and right with the left and right arrow keys, and you can rotate him forwards and backwards with the up and down arrow keys. You can also make him roll left and right with Q and E. The goal in Act 5 is to defeat the nefarious Dr. Shep. You must collect the bananas so that you may gain ammo needed to defeat Dr. Shep. Each banana supplies you with 3 ammunition. To fire off a shot, press the spacebar. You must hit Shep with 9 shots to defeat him. Dr. Shep will impede your progress by bombarding you with giant donuts. Each donut raises your fatness by 1. If your fatness level reaches 8, you have lost. If you manage to hit Dr. Shep with 9 shots, the Act, and the game, will be completed.

Game controls:

Menu Screen Controls:

Directional Arrows: Highlight option
Enter: Select Highlighted option

Act Select Controls:

Number Keys 1-5: Highlight Act 1-5, respectively
B: Highlight "Back" Option
Enter: Select Highlighted option

Act 1 Controls:
 W: Move up
 S: Move down
 A: Move left
 D: Move right

Act 2 Controls:
 W: Speed up
 S: Slow down
 A: Move left
 D: Move right

Act 3 Controls:
  W: Move up
  S: Move down
  A: Move left
  D: Move right

Act 4 Controls:
  W: Move forwards
  S: Move backwards
  A: Strafe left
  D: Strafe right
  Left Arrow: Rotate left
  Right Arrow: Rotate right

Act 5 Controls:
  W: Move forwards
  S: Move backwards
  A: Strafe left
  D: Strafe right
  Q: Spin left
  E: Spin left
  Left Arrow: Rotate left
  Right Arrow: Rotate right
  Up Arrow: Rotate down
  Down Arrow: Rotate up
  Spacebar: Fire projectile

Self Evaluation

David:

For this game, we created all the models represented. We used a program called Blender that allowed us to create three-dimensional characters and use a game engine that was built into the program itself. To create the characters, various tools and features inside Blender had to be learned. Objects were slowly shaped and smoothed by dragging and using other sculpting tools. We added color and other textures to give our creations more artistic detail. The creation of this game required a higher level of artistic ability due to perspective in the advancing mechanics of each level. We hope that the visuals will gain the interest of players and get others to join with them, hopefully educating them about food choices in the process.

Jacob:

Our goal for the game was to create a fun and educational learning tool that teaches good eating habits while still entertaining the player. We programmed the game using the built-in logic controllers to create the physics and gameplay options needed for our game to function. As the game progresses, each level becomes more interesting and mechanically advanced, thus creating a more exciting and compelling gameplay experience. The game can be successfully played directly from a DVD and offers five levels of skill to its players. It is instructional in that the games objective is to educate students to make healthier food choices. While we originally planned to incorporate a mathematical aspect in that actual calories would be calculated, we were limited by time in completing this goal. We hope the skills we learned from this endeavor will open up doors for us to get into some aspect of the game industry.

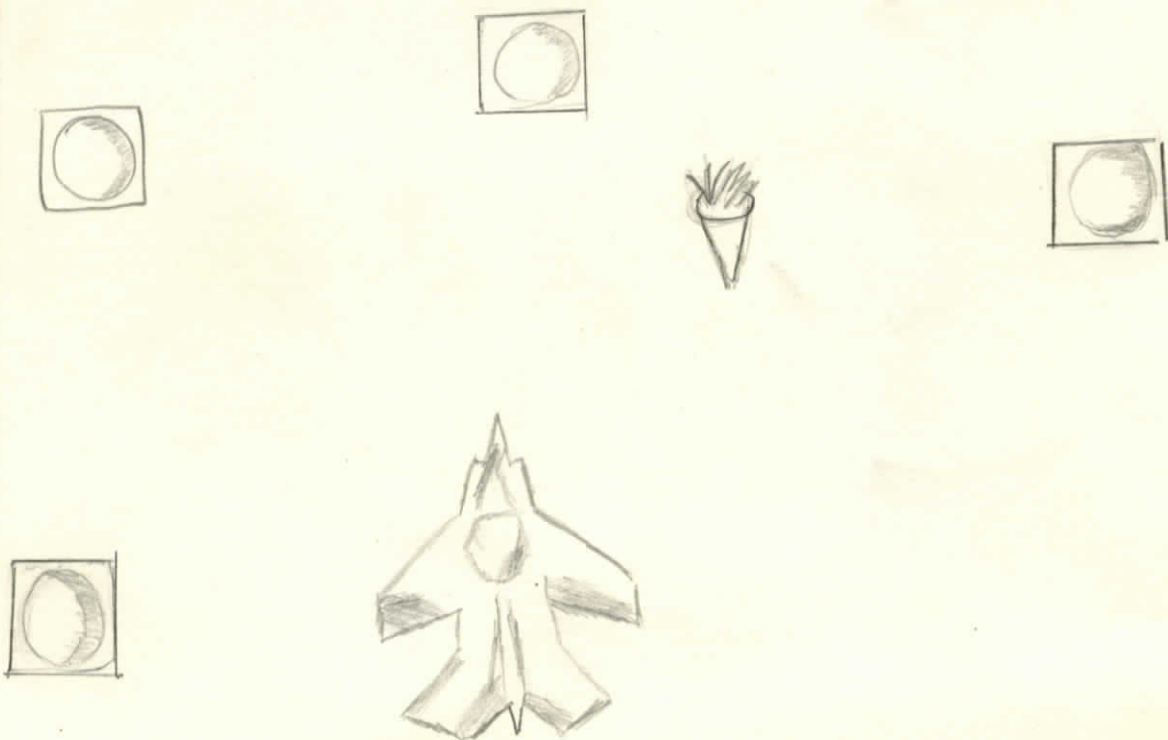# Commbrad : The Quest for Food
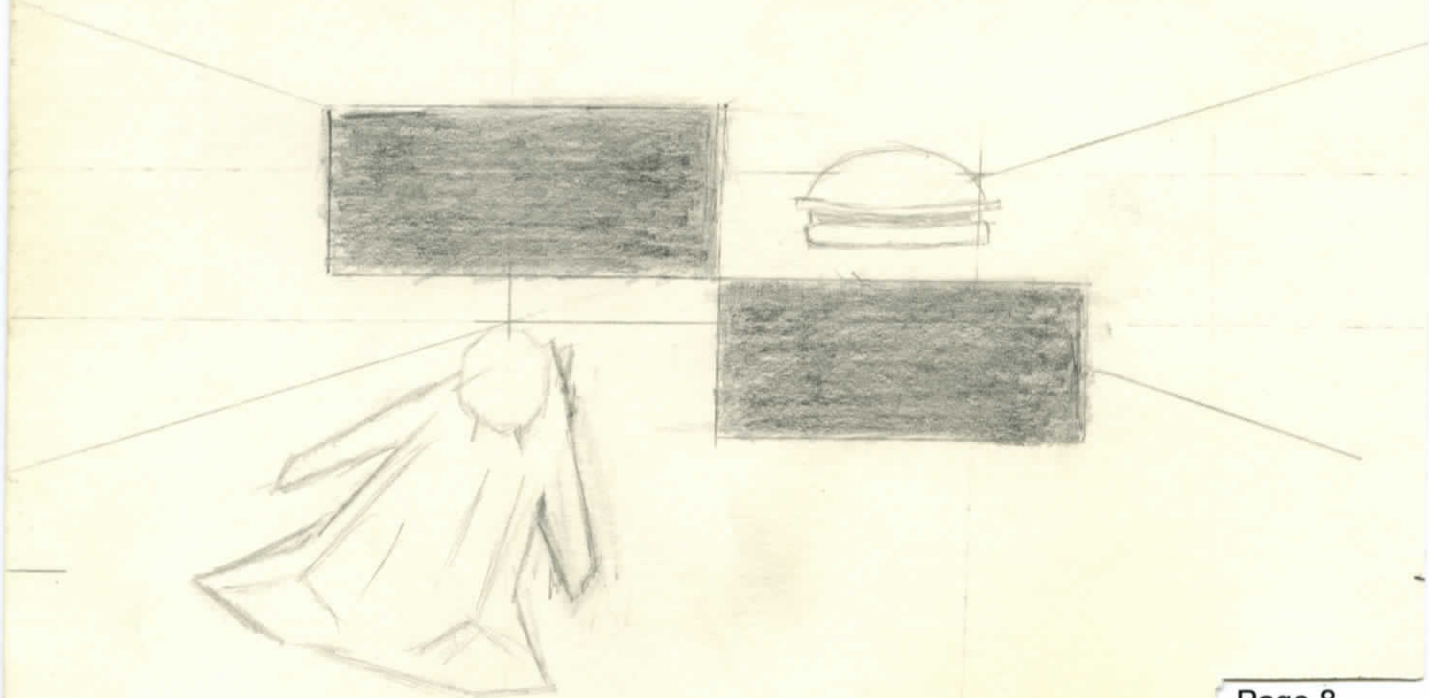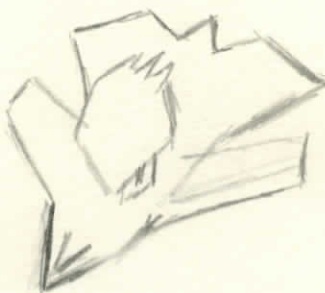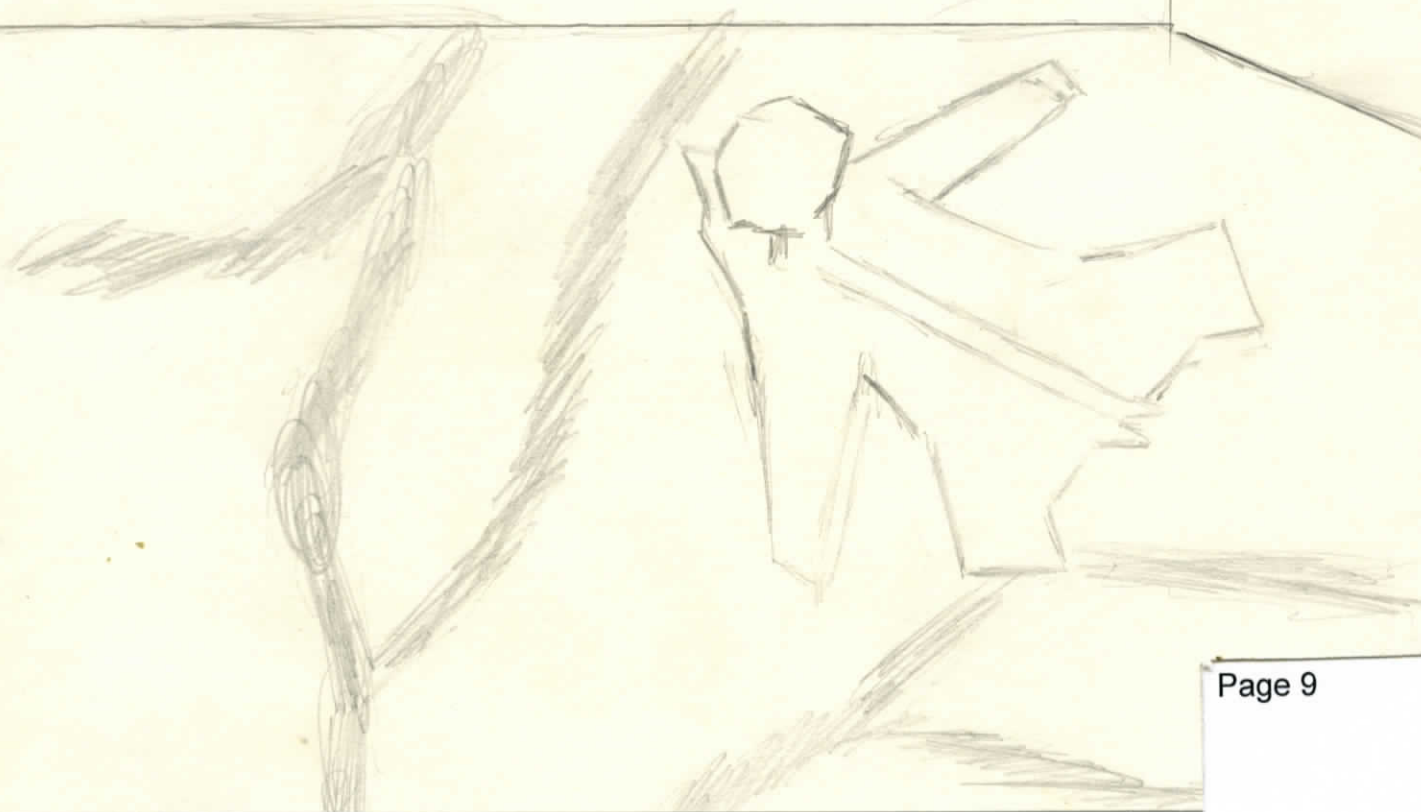
Act 1
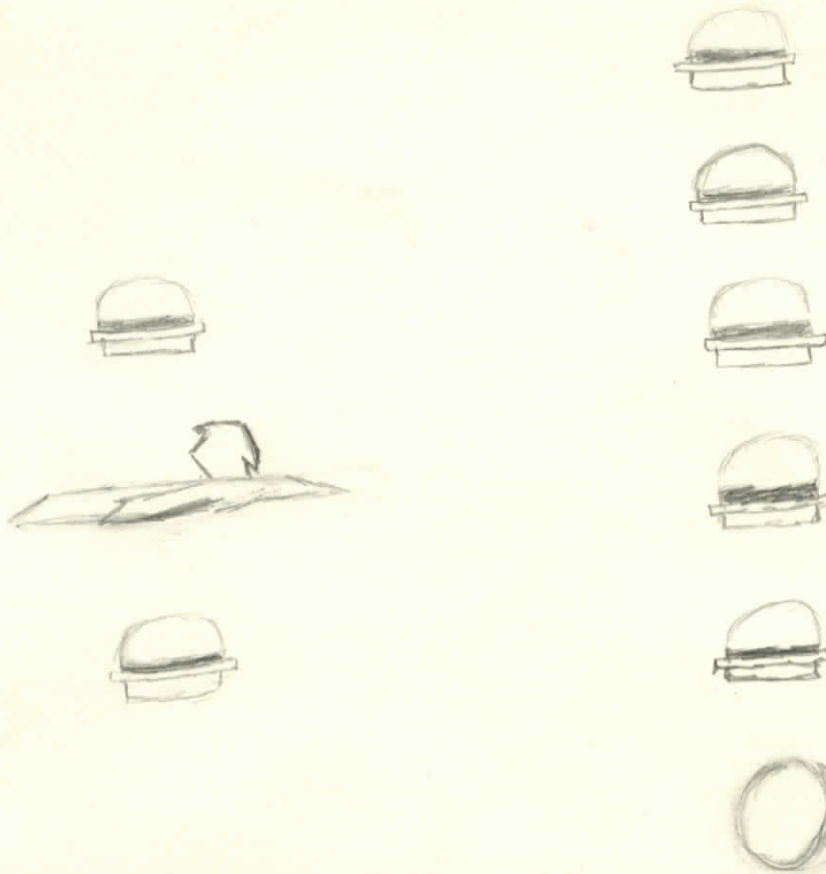
Act 2

Act 3

Act 4

Final Act

Win

Hardware and Software

Toshiba PSLEQU-01000R Laptop Computer [Computer Hardware]. Made in China

Blender 2.49 for Windows (2010). [Computer Software]. Amsterdam, The Netherlands: The Blender Foundation. Freeware ($.00)

Windows Vista (2007). [Computer Software]. Redmond, WA: Microsoft Corporation

References

- Google
- www.Blender.org
- www.zooboing.com
- www.shadowndacorner.com
- www.layoutsparks.com
- bluekraken.wordpress.com
- www.3dstudio-max.com
- Blender (Our 3D Modeling and Game Engine)
- Other Blender supported tutorials

Permission of Copyrighted Material

Blender

This version of Blender has been originally released at www.blender.org.
It is subject to the GNU GPL license, which is part of this download.
For more information please review the Blender source code distribution,
which should be available at the same location as where you obtained
this version.

IMPORTANT: PLEASE READ CAREFULLY BEFORE USING THE BLENDER
SOFTWARE

This License Agreement for the Blender software ("License
Agreement") is an agreement between Stichting Blender Foundation,
Amsterdam, the Netherlands ("BF") and you (either an individual or a
legal entity) ("You") with respect to the software product which this
License Agreement accompanies (the "Software").

By installing, copying or otherwise using the Software, You agree to be
bound by the terms of this License Agreement.

1. Grant of License

Subject to the provisions of the GNU GPL license, BF grants You a
non-exclusive right to use the Software at any computer You own or use.
Artwork you create with the Software - whether it is images, movies,
scripts, exported 3d files or the .blend files themselves - is your sole
property, and can be licensed or sold under any conditions you prefer.

2. Permitted copying and electronic distribution of Software

You are hereby granted permission to copy and distribute the Software
without written agreement from BF. This entire License Agreement, and
the GPL-license.txt must appear in and/or accompany all copies of the
Software. The source code distribution, which can be found at the same
location where you obtained the Software, has to accompany all copies
of the Software as well.

3. Disclaimer of Warranties

BF provides you with the Software "as is" and with all faults. BF explicitly disclaims all warranties and guarantees and does not make any representations with respect to the Software, whether express, implied, or statutory, including, but not limited to any (if any) warranties of or related to: fitness for a particular purpose, title, non-infringement, lack of viruses, accuracy or completeness of responses, results, lack of negligence or lack of workmanlike effort, and correspondence to description. The entire risk arising out of use or performance of the Software remains with You.

4. Limitation of Liability

In no event shall BF or its employees, agents or suppliers be liable for any direct, indirect, consequential, incidental, special, punitive, or other damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, claims of third parties, damages as a result of injury to any person, or any other loss) arising out of or in connection with the license granted under this License Agreement or the use of or inability to use the Software, even if BF has been advised of the possibility of such damages.

5. User warning and indemnification

WARNING: use of the Software and use of any works that are (partially) created with the Software (the "Works") may cause physical or psychological reactions from You or from third parties, which may result in damages, injuries, losses and/or other negative consequences. You acknowledge that BF can not be held liable for any such damages, injuries, losses and/or other negative consequences. You acknowledge that it is your obligation to investigate, prevent and/or minimize such reactions prior to having third parties use the Works.

You shall indemnify and hold harmless BF from and against all actions, claims, demands, proceedings, losses, damages, costs, charges and expenses, including but not limited to legal fees and expenses, arising out of or in connection with (i) the use of the Software by You and (ii) the use of any Works created with the Software by You or any third parties.

6. Enforceability

If any provision of this License Agreement is held to be unenforceable by a court of competent jurisdiction for any reason, such provision shall be adapted or amended only to the extent necessary to make it enforceable, and the remainder of the License Agreement shall remain in effect.

7. Governing law and disputes

This License Agreement and all disputes arising from it will be governed by the laws of The Netherlands. All disputes arising in connection with this Agreement that cannot be settled amicably shall be brought before the competent court in Amsterdam, the Netherlands, to which jurisdiction BF and You hereby irrevocably consent.

Stichting Blender Foundation
Amsterdam
the Netherlands
Chamber of Commerce: 34176425
http://www.blender.org
foundation@blender.org

Desktop icons

To match the styling of desktops, several variations of the logo are in use. For icon usage, the logo shape has to remain correct and recognizable.

Blender logo usage guidelines

The Blender logo is a copyrighted property of NaN Holding B.V, and has been licensed in 2002 to the Blender Foundation. The logo and the brand name "Blender" are not part of the GNU GPL, and can only be used commercially by the Blender Foundation on products, websites and publications

Under the following conditions third parties (persons, companies) can use the Blender logo as well:

1. The logo can only be used to point to the product Blender. When used with a link on a web page, it should point to the url**http://www.blender.org.**

2. You will visualize and promote your own branding more prominent than you use the Blender logo. The Blender logo only can be used as a secondary brand, which means it has to be clear for an average viewer that this is not an official Blender or Blender Foundation website, publication or product.

3. You can use the Blender logo on promotion products, such as T-shirts or caps or trade show booths, provided it is a secondary brand as described in point 2.

4. The logo is used unaltered, without fancy enhancements, in original colors, original typography, and always complete (logo + text blender).

5. In case you use the logo on products you sell commercially, you always have to **contact us** with a picture of how it will be used, and ask for explicit permission.

In any case you have doubts, just **contact us** for further advice!

Usage in artwork and community websites

Blender's logo has been used in 100s of ways, in artwork, as smileys, as part of other logos in headers of community websites. This was - and still is - considered to be an honest tribute to Blender, and the guidelines are not meant to make all these versions "illegal" or "officially disapproved".

This page is only meant to clarify the official Blender Foundation guidelines, so people know what their minimum rights are how and when to use the logo.
Making fun and cool versions of the Blender logo is really part your own artistic freedom, and Blender Foundation will never act against such tributes. Just don't expect us to "officially approve" it, that's all. :)
Thanks,

Amsterdam, March 2009
Ton Roosendaal, Chairman Blender Foundation

Logo downloads

The logo with white "socket" is especially for websites with a dark or busy background, to keep it readable.

Blender socket logo, EPS.
Blender socket logo, .blend file.

Blender socket logo, stickers (e-shop).

The plain logo is for clean white backgrounds.

Blender logo, .png (460x128)
Blender logo, .eps

Acceptable variations

On certain darker backgrounds, like this example, the text color can be made white, and the logo center kept white.

Blender logo white text: .blend file

For B&W usage, you can use these versions.

Blender logo B&W: .blend file

Desktop icons

To match the styling of desktops, several variations of the logo are in use. For icon usage, the logo shape has to remain correct and recognizable. Here are two examples of correct desktop icons, although the second one's blue pupil is too small.

Bad logos

Other designers have tried to make their own versions. The following examples have severe shape deformation issues:

- The first designer forgot to add the subtle "backwards leaning" perspective in the logo, the three 'fingers' of the logo have to be of different width.

- The other designers thought it would be fun to make the logo in 3D. This makes it badly recognizable. The logo should remain a graphical '2D' item.

blender.org

http://www.blender.org/blenderorg/blender-foundation/logo/

Not Created by Team

- Blender
- Images used for textures:
  www.zooboing.com

  www.shadowndacorner.com

  www.layoutsparks.com

  bluekraken.wordpress.com

  www.3dstudio-max.com

Work Log

Date	Task and Content	Total Time	Team Members
8/15/10 - 8/21/10	Brainstorming session, chose game design for TSA entry	24.5 hours	Entire Team
8/22/10 - 8/28/10	Downloaded Game Maker 8. Went through tutorial.	14 hours	Spen, Darb
8/29/10 - 9/4/10	Downloaded Blender and went through part of the tutorial. Made plans for the game and started the making of the main character	24 hours	Sorr, Spen, Darb
9/5/10 - 9/11/10	Started creating several characters for the game using Blender.	3.5 hours	Sorr
9/12/10- 9/18/10	Created basic game using proprietary Blender engine; started forming storyboard, character and level ideas.	3.5 hours	Sorr, Darb
9/19/10- 9/26/10	Elaborated on characters, changed design of the game.	10.5 hours	Darb, Sorr
9/27/10- 10/3/10	Tried using the beta of Blender and then went back to original version.	8 hours	Darb, Sorr
10/4/10- 10/10/10	Started to learn how to animate with Blender; programmed basic scrolling level and shooting mechanics.	3.5 hours	Darb, Sorr
	Created basic game with title screen, ending screen.	3.5 hours	Darb, Sorr
	Started actual game making and more characters.		
11/4/10- 11/11/10	Programmed failure screen, more shooting mechanics. Learned how to move/ animate a ginger bread man.		
12/9/10- 12/16/10	Learned how to not move a level's objects.	3 hours	Darb, Sorr
12/16/10- 01/20/11	Programed enemy characters, experimented with textures.	4 hours	Darb
1/27/2011	Experimented with basic AI, made pizza in Blender.	5 hours	Darb, Sorr
1/27/2011- 1/31/2011	Created more food based models.	3 hours	Darb, Sorr
2/18/2011	First level near completion; menus and misc. complete.	4 hours	Darb
2/18/2011- 2/28/2011	First level complete, work progressing on second. Concepts for third in process. Menus modified.	3 hours	Darb
2/28/2011- 3/01/2011	Physics for third level in the works, storyline/narrative in progress.	3 hours	Darb
3/01/2011- 3/03/2011	Made more blender pizza, re-focused the game, made apple slice, cheese, milk, carrot. Made changes to game objective.	3 hours	Sorr, Darb
3/04/2011- 4/21/2011	Finished making all 5 levels of the game and nearly completed documentation.	30 hours	Sorr, Darb
4/24/2011	Finished the game and succeeded putting the game onto a CD.	7 hours	Sorr, Darb