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**Rochester Institute of Technology**

A Thesis submitted to the Faculty of the  
College of Imaging Arts and Sciences  
in candidacy for the degree of  
Master of Fine Arts

**BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE  
FIGHTING FISH.**

Ali Alquraini

Nov 12, 2008

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## Approvals

**Chief Advisor:** Chris Jackson, Associate Professor, Computer Graphics Design

---

*Signature of Chief Advisor*

*Date*

**Associate Advisor:** Marla Schweppe, Professor, Computer Graphics Design

---

*Signature of Associate Advisor*

*Date*

**Associate Advisor:** Adam Smith, Assistant Professor, New Media Design

---

*Signature of Associate Advisor*

*Date*

**School of Design Chairperson:**

Patti Lachance, Associate Professor, School of Design

---

*Signature of Administrative Chairperson*

*Date*

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**Rochester Institute of Technology  
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Master of Fine Arts**

**BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

**Abstract**

Siamese fighting fish also known as “Betta fish” is one of the most well known fresh water fish around the world. Their beautiful colors and long finnage is one of the reasons in which most people are familiar with these fish. Also their unique labyrinth organ that helps this fish to get oxygen from the air made it easy for people to adopt.

Over the past five years, I have been adopting Bettas from different countries around the world such as Thailand, Malaysia, Singapore and United States. During this time I have met a lot off Betta lovers which made me notice how they were really interested in breeding these creatures. But the problem is undertaking a Betta spawning project is a bit more of a challenge for people who are new to this field. I researched both books and online websites trying to find an answer for this question which made me discover that this area is lacking in Interactive web content. Therefore, I will try to use my design skills to help improving Betta fish lover’s websites by creating an online website that allows you to try the experience of breeding Bettas interactively. If flash interactivity were used in this field, will it be the best choice for people to easily understand the process of breeding Bettas and learn more about them?

My thesis is an exploration in designing online content that uses multiple media formats to support Betta fish breeding. Divided in to four main sections, this thesis will offer general information about Betta fish, will explain their diet and how to take a good care of them, will offer an interactive high quality image gallery, and will allow the user to try and breed Bettas interactively in order to make him succeed in it in real time.

**Project website: [http://www.alquraini.com/betta\\_breeding.html](http://www.alquraini.com/betta_breeding.html)**

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# Part A

Thesis Project Research

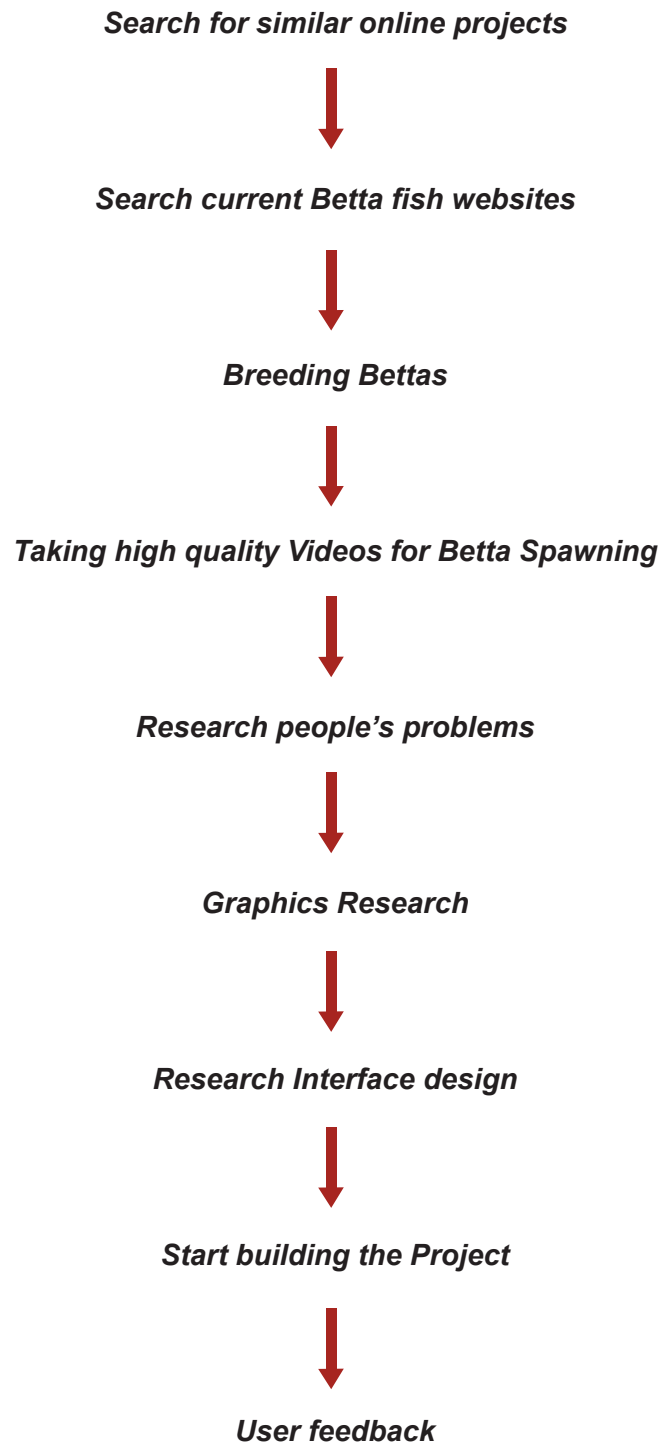
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## Thesis Project Research

**BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**  
By Ali Alquraini

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### Research Process



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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#### Similar projects

##### *Fish Tycoon*

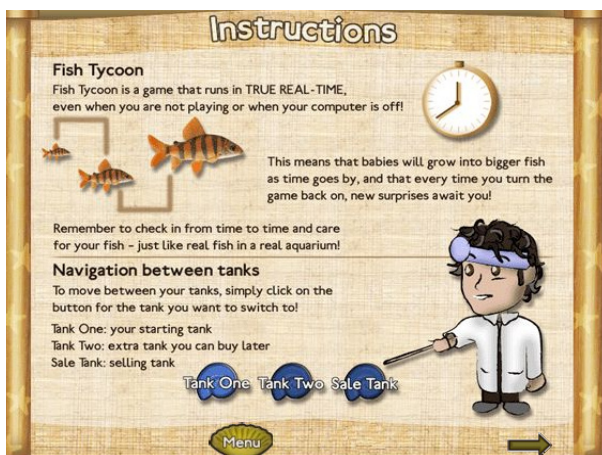
During my web research the only similar project that I found online was an online flash game called FISH TYCOON. It's basically a game that allows you to adopt different types of fish and you can feed them, sell them and breed them. It also runs on true real time even when you are not playing or when your computer is off. This means that when you save your game and come back again different surprises await you like small fish will grow bigger and some of your fishes may die.

#### Some of the disadvantage that I found in this game:

- Poor graphics quality.
- The breeding process is not based on true steps.
- The user will lose everything when he is not playing since this game runs on true real time.
- Feeding the fish is not based on real food types.



*Main Menu*



*Instruction*



*Real time playing*

<http://www.flavorgames.com/pages/play-game/216/fish-tycoon>

# Thesis Project Research

## BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

### Current Betta fish websites

<http://www.bettatalk.com>

Betta Talk is one of the best websites I have ever seen. It has a library of information that provides all necessary information you need to know about Betta fish such as (history, Breeding Bettas, selling life Bettas, image gallery, health, stories, videos, and Betta supplies). People can also ask questions on a message board, in which they can share their experience and problems with each other.

### Some of the disadvantage that I found in this website:

- Poor graphics quality.
- Poor images quality.
- Almost all the content is text based.
- The website's links are not well manages and it is hard to find what you seek.
- No sound effects or music.

wager everything they owned, even their  
so that the King of Siam decided to lice  
ere fought back then looked nothing like  
originally boring, dull looking little thangs  
ns and rice paddies in Thailand and Mala



History page

orguous .

above: a betta at rest (left) may not look all that threatening.

The same betta flaring appears to be twice as large, hence intimidating rivals. Over activity may cause the tail to tear, especially in halfmoon bettas, a phenomena known as "blowing a tail". Notice slight tears in the above halfmoon betta's tail.

use bettas are not as intelligent than us (or are they? )) you can get the same if it's not really that they are dumb, but they don't know what they look like, so we know the betta is actually THEM. :) This makes for hours of fun watching the whi used, as a matter of fact, I have two brothers jarred side by side who have been I believe that a little action and company is good for the moral. So I let my betta th, if you intend to show your bettas. Sometimes, a betta who looks lethargic will w neighbor equals a new pecking order to establish and a whole new desire for fi

Behavior page

welcome to bettatalk.com  
ranking #1 betta site worldwide !  
"undoubtedly the definite betta website!" — The DAILY NEWS  
as featured on ANIMAL PLANET and the BBC

Google Search  
www.bettatalk.com

2 7 8 5 2 8 3 visitors and their bettas have found help here!

this website is currently 525 pages and was last updated on: 01/25/08

buy bettas  
buy supplies  
gift shop  
betta consultation  
meet me  
learn about bettas  
betta care  
betta health  
breeding bettas  
rearing the fry  
betta database  
e-magazine  
betta polls  
betta galleria  
betta videos  
betta stories  
virtual betta

**bettatalk.com news flash**  
▶▶ **Enjoying bettas in the winter...**  
It has been raining for days in "sunny" Southern California... I couldn't think of a better place to be than in my fishroom, setting new spawns up! Feeding the many hungry little mouths is always a fun task. The bettas become animated when they see me "Hey Mom, how about some grubbs?!" I especially enjoy feeding the community tank of juvenile bettas. They all come flocking pressing their little faces against one another, it's like 200 pair of eyes watching your every move... I can literally reach in with my hand and they'll swim right in it... Cute little guys... So friendly...  
I hope you guys are enjoying your fish too. Winter is a good time to spawn, so if you are looking for breeding pair, stroll down to our fishing pond, roll your pants up and step in... Worry not, the water is warm :).  
[Dip your toes in our fishing pond and catch some nice bettas!](#)

**the woman behind the website**  
I have been featured on national and international television, am the founder and President of L.A.B.S. (Los Angeles Betta Society) and have been helping the betta community through this website since 1998. I have over 100 spawns and 5000 shipments under my belt and have been filmed by both Animal Planet and the BBC channel.

Home Page

<http://www.bettatalk.com>



# Thesis Project Research

## BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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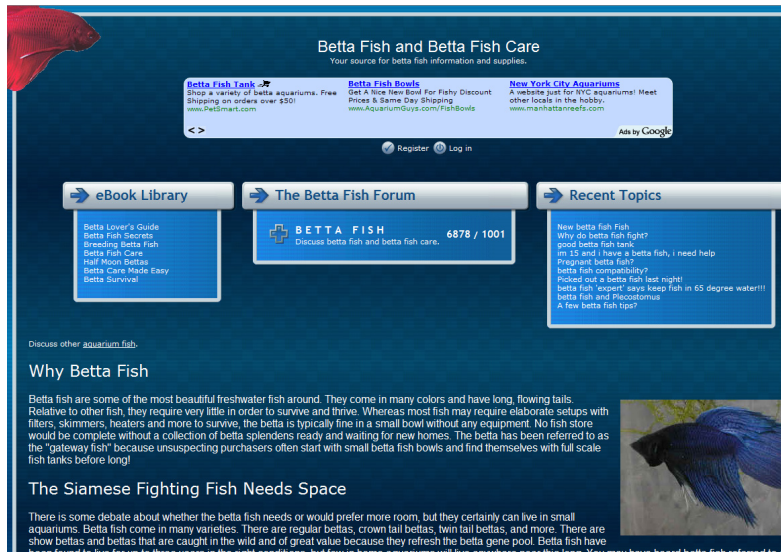
### Current Betta fish websites

<http://www.bettafish.com/>

Betta fish.com is basically a website is based on a message board for Betta fish talks. It is like a Betta fish lover's chat room where they can share, ask questions, and leave feedback. The links provided in the website will guide you to other websites that will offer you all the important information about Bettas.

### Some of the disadvantage that I found in this website:

- Broken links.
- Poor image quality.
- Poor flash animation and interactivity.
- Hard to find what you seek.



Home Page



Message Board



Links to other websites

<http://www.bettafish.com/>

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# Thesis Project Research

## BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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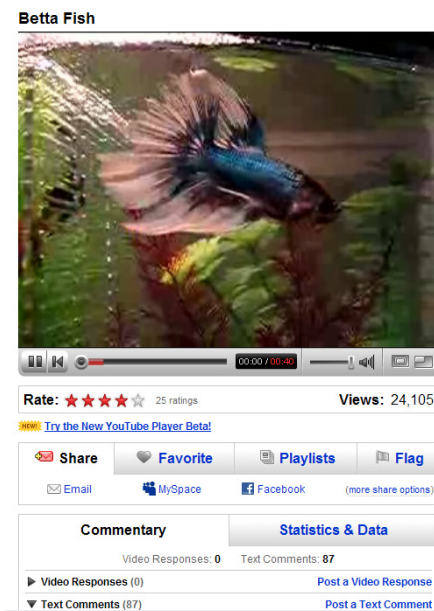
### Current Betta fish websites

<http://www.youtube.com>

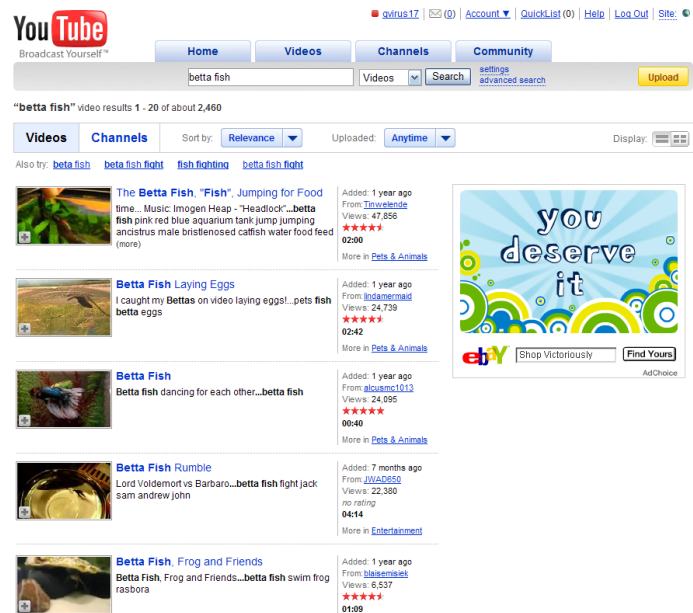
You Tube, the most popular video sharing website that allows you to broadcast yourself for free. It is considered to be the fastest way of getting people's feed back in any type subject. I found some interesting videos about Bettas that was taken by people from different countries around the world.

### Some of the advantage that I found in this website:

- Easy to upload a video file.
- Easy to navigate through the website.
- Good video quality.
- Getting feedback from different viewers around the world.
- Good sound quality



Video sample



Home Page

<http://www.youtube.com>

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## Thesis Project Research

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#### Breeding Bettas Project

To breed Bettas, The following items are required:

- Betta male.
- Betta female.
- 10 gallon fish tank.
- Tank cover.
- Adjustable heater.
- Live or plastic plant.
- Frozen Blood worms.
- Life food for the fish baby (brine shrimp eggs).
- Light source



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH. By Ali Alquraini

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*Tank cover*



*Light source*



*Adjustable heater*



*Live or plastic plant*



*Frozen blood worms*



*Brine shrimp eggs*

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## Thesis Project Research

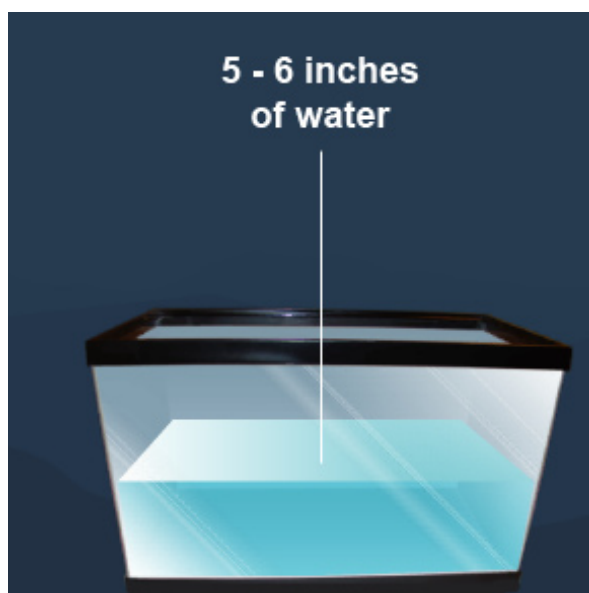
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#### Breeding Bettas Projects

In my thesis project, a drag and drop mini game will be provided for the user, which will help setting up the aquarium for breeding. It also allows him/her to know more about the necessary equipment and the right measurements for them. This game will be presented in the breeding section.



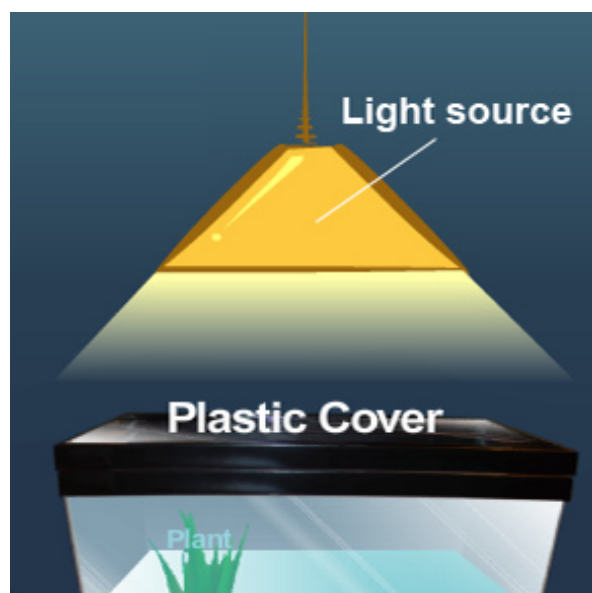
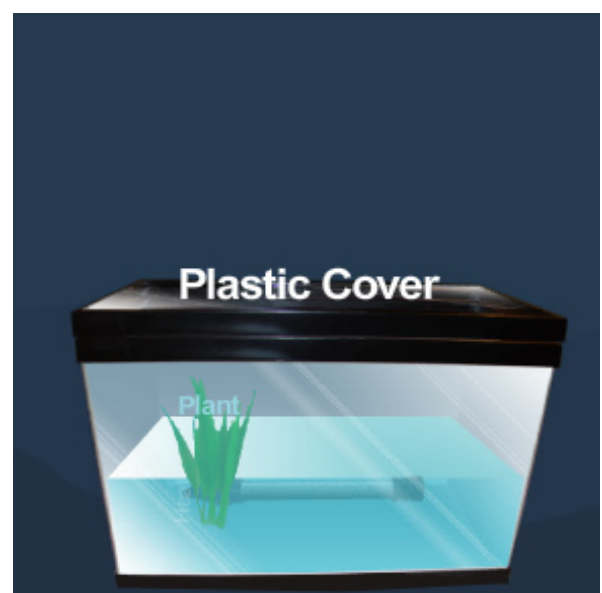
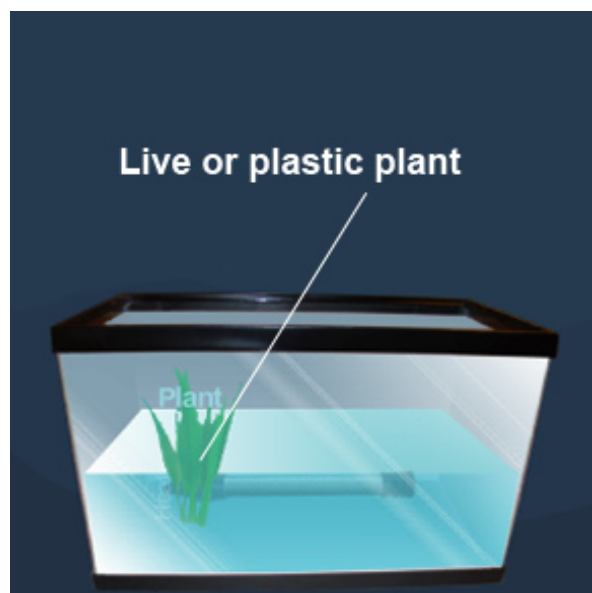
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I've used Adobe Photoshop, Adobe Illustrator in creating the graphic elements, And Adobe Flash for creating the drag and drop game.



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## Thesis Project Research

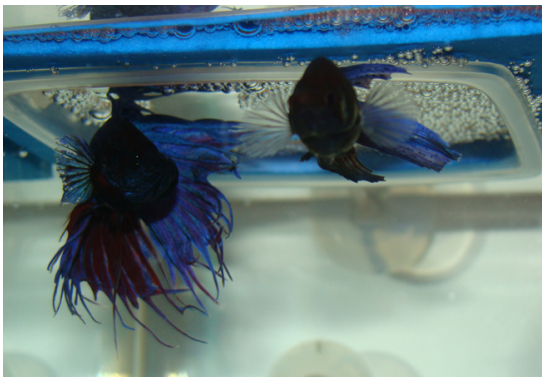
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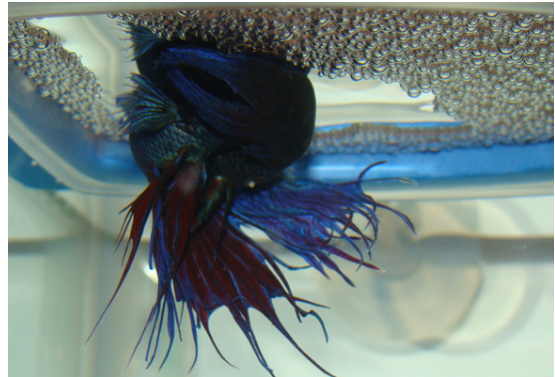
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#### Breeding Bettas Projects

During my Betta breeding trials, I took some high quality videos and images showing the spawning process. The videos helped me in understanding the behavior of Betta fish, and were a good reference for illustrating and animating the matting stages in Flash.



*Male Betta on the left side & female Betta is on the right side*



*The couple come in close contact and the female releases the eggs*



*Bubble nest produced by the male*



*Male Betta is guarding the eggs in the bubble nest*



*Betta female retreats from the male*



*The male is collecting the fallen eggs and placing them back in the nest*

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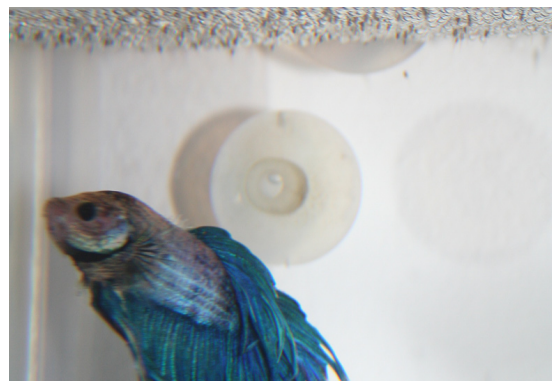
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*Betta fish eggs*



*Male Betta taking care of the babies (fries)*



*The male is collecting the fallen babies to replace them back in the nest*



*Two day old babies swimming in the aquarium*



*Four day old Betta*



*Ten day old Betta*



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## Thesis Project Research


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#### Breeding Bettas Projects

##### *Taking high quality videos*

I took high quality videos during my breeding projects and posted some of them on  in order to get feedback from different people around the world.



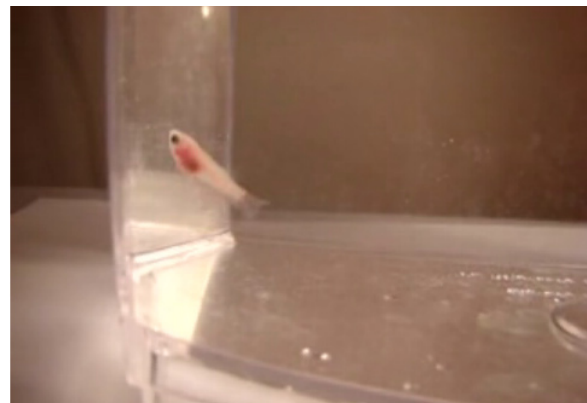
<http://youtube.com/watch?v=nSzYWsZFseE>



<http://youtube.com/watch?v=mUzx1Qe5dYw>



<http://youtube.com/watch?v=jHMHYDqcGU8>



<http://youtube.com/watch?v=vp7uMAbdeE8>

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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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## Breeding Bettas Projects

### *People's feedback*

I was surprised from the amount of feedback that I kept receiving every day for each video. I Also managed to understand the most common problems peoples been having with their Betta breeding project in order to implement it in my project.

[Explanation](#) (1 month ago)

[Reply](#) | [Spam](#)  
[Remove](#) | [Block User](#)

0  

I had Eggs the female ate em all though

[geebody](#) (1 month ago)

[Reply](#) | [Spam](#)  
[Remove](#) | [Block User](#)

0  

lol can you explain to me how to breed betta fish??like explian everything???because i used to breed guppies(ill post a video response so u can see the babies!!) and i did it a couple of times but i got bored so i wanna try breeding somthing a little more tougher.TELL ME EVERYTHING I NEED TO KNOW!! THANKS!!!

[robin22391](#) (2 months ago)

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[Remove](#) | [Block User](#)

0  

u know how males are usually aggressive, well my female was aggressive it killed 3 males(not at the same time) ripped them to shreds,she got ripped aswell and she done the thing wer she puffs her gills out,but it was defo a female

[coldgohan](#) (2 months ago)

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0  

Nie vid i got some questions im getting ready to become a breeder and im gona try bettas. First do pet stores like petco and petsmart sell brine shrimp or thier eggs? and Can i sperrate the male and female with a hospilte inthe smae tank and when the fry hatch but a divder in with the female and spertae them?  
Thanks

---

## Thesis Project Research



### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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## Breeding Bettas Projects



### People's feedback

**kingmgm1** (2 months ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#) 0  

how many babys hatch????

**gvirus17** (2 months ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#)



Almost all of the eggs :)

**zayfoe** (3 months ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#) +1  

How many eggs do hatch? my Bettas a black and yellow with red dots its a rare randorala Betta from Japan. And it bred with my black and orange female there the only 2 in my 10 gallon fish tank. And are they aggressive when there children as well

**gvirus17** (3 months ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#)

You shouldn't put them together in the same tank all the time. They should be separated and should put them together when you want to spawn them.

**debsie58** (4 months ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#) 0  

That is amazing! Wow. I just got a male betta for Christmas and have introduced a female. He has built a very small bubble nest but I am not sure when to take the female out. I had to go to work today so I didn't see if they actually spawned. Can you actually see eggs in the nest?

---

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[elpendego13](#) (3 weeks ago)

[Reply](#) | [Spam](#)  
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-1  

were is the babies

[gvirus17](#) (3 weeks ago)

[Reply](#) | [Spam](#) | [Remove](#) | [Block User](#)

they are vert tiny i couldn't get a clear shot for them, the male is collecting them in his mouth

[gvirus17](#) (4 months ago)

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Yep you can see them hanging from the nest. And make sure you stay with them when you introduce them together because some time it won't work from the first time and either your male or female may get injured or die.

[panhead88](#) (5 months ago)

[Reply](#) | [Spam](#)  
[Remove](#) | [Block User](#)

0  

that vid was awesome! can i ask, when the fry hatch, is the first food you give them BBS? how are the fry going and how long have you been breeding for? 5 stars!

[gvirus17](#) (5 months ago)

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- The fries hatched after 2 days. :)
- I'm Feeding them Baby Brain Shrimp.
- I've been breeding since 1 year it's really fun.

[jcvideos11](#) (4 months ago)

[Reply](#) | [Spam](#)  
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0  

I am a new breeder, so I was just wondering, what do you do when all of the fries mature? Do you sell them because I have no idea?! My Bettas just spawned yesterday and I wanna know what to do with the babies when they are matured.

[gvirus17](#) (5 months ago)

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From the first day you see them swimming by them Selfes. for me it was from day 4

---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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## Breeding Bettas Projects

### People's feedback

▼ **Text Comments (4)** [Post a Text Comment](#)

Show:  [Help](#)

---

**fishridesaroller** (2 weeks ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#) 0  

u should open a breeding blog! i want to breed those too!!!!!!!!!!!!

---

**blingomatica72395** (3 weeks ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#) 0  

how long does it take till they get big enogh

---

**gvirus17** (3 weeks ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#)

Two months with good diet feeding. after that you need to seperate the males

---

**snager80** (1 month ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#) 0  

waht did you feed them and where did you get it and how often did you feed it to them at each age? /^^

---

**gvirus17** (1 month ago) [Reply](#) | [Spam](#) | [Remove](#) | [Block User](#)

I feed them baby Brine shrimp, you can get brine shrimp eggs either from petsmart or online from ebay. you have to feed them 2 to 3 times a day. even if you over feed them the water will be fine since it's live food

---

## Thesis Project Research

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**gvirus17** (5 months ago)

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No, daddy didn't eat them I removed him in day 3 .I'm still raising them they started having colors.

**jewlmerchant** (5 months ago)

[Reply](#) | [Spam](#)  
| [Remove](#) | [Block User](#)

0  

How did you take care of all those babies? What happened to them? Did daddy eat them?

**RIPTAPEuser132** (4 months ago)

[Reply](#) | [Spam](#)  
| [Remove](#) | [Block User](#)

-3  

what do you feed the fries i breed my pair and the fries died

**vicecity9900** (4 months ago)

[Reply](#) | [Spam](#)  
| [Remove](#) | [Block User](#)

-2  

They don't eat fish food until they are 2 weeks old. Until then get some water out of a pond or lake, put it in a jar, mix in some of the water in the aquarium and put the pond water in the aquarium with the fries. They eat microorganisms in the pond water.

**panhead88** (5 months ago)

[Reply](#) | [Spam](#)  
| [Remove](#) | [Block User](#)

0  

wow big bubble nest, what did you feed the male? have you ever tried IAL?

**gvirus17** (5 months ago)

[Reply](#) | [Spam](#) | [Remove](#) | [Block User](#)

I was feeding him Bloob worms

**Xabandith** (2 weeks ago)

[Reply](#) | [Spam](#)  
| [Remove](#) | [Block User](#)

-1  

how u know boy and girl?

**gvirus17** (2 weeks ago)

[Reply](#) | [Spam](#) | [Remove](#) | [Block User](#)

Usually the male has long fins and the female has short one.

---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

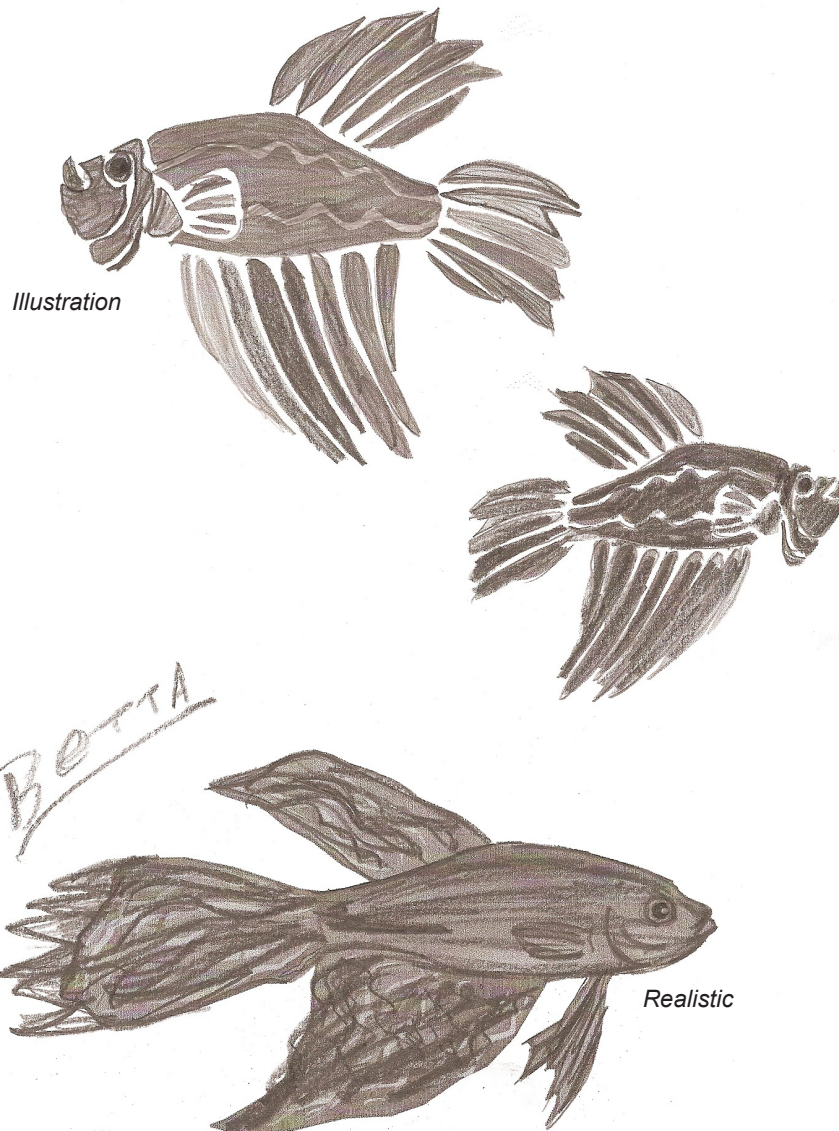
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## Graphics Research

### Sketches

During my graphic research, I started doing some rough sketches to find the best choice for creating an animated Betta fish. I tried several types of drawings such as realistic, illustration and cartoony.



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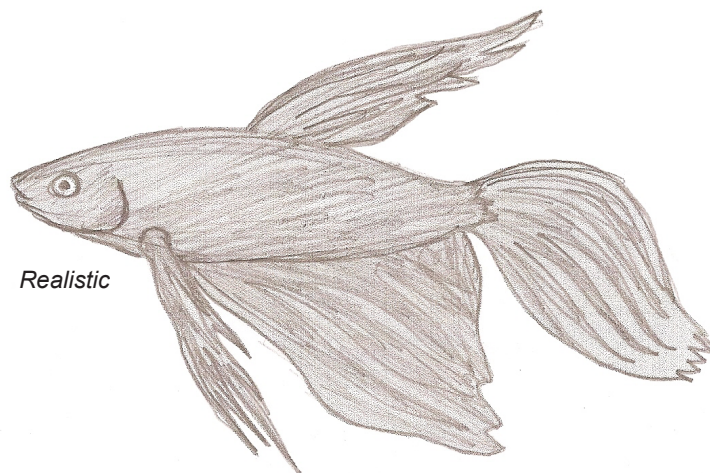
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By Ali Alquraini

---

### Graphics Research

My aim was to reach a graphic that is easy to animate, create, and clearly shows the Betta colors and shape.



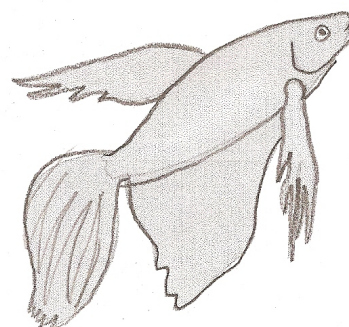
*Realistic*



*Realistic*



*Simplified*



*Simplified*



---

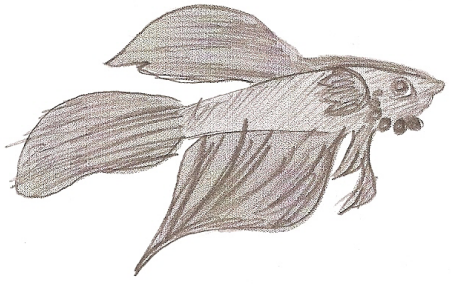
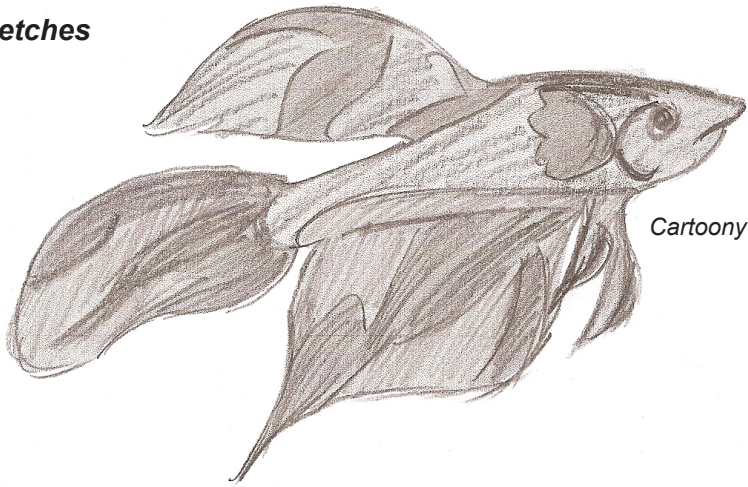
**Thesis Project Research**

**BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**  
By Ali Alquraini

---

**Graphics Research**

**Sketches**



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

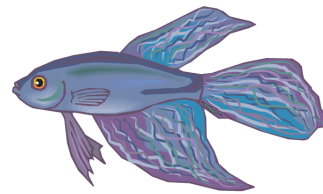
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## Graphics Research

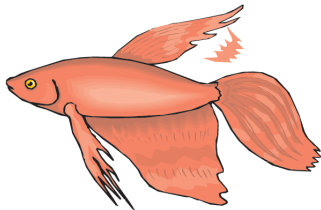
After I was done with sketching, I chose the ones I liked and illustrated them using Adobe Illustrator. I also added 3D graphics and photographs in my research.



(1) Simple Illustration  
*Created with Adobe Illustrator*



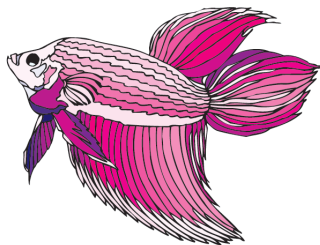
(2) Illustration - A  
*Created with Adobe Illustrator*



(3) Illustration - B  
*Created with Adobe Illustrator*



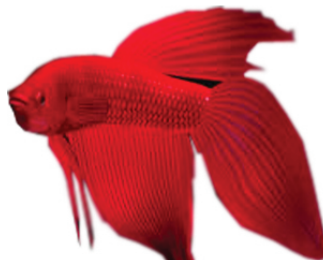
(4) Illustration - C  
*Created with Adobe Illustrator*



(5) Illustration - D  
*Created with Adobe Illustrator*



(6) Photograph  
*Taken by a digital camera*



(7) 3D Betta  
*Created with Maya*

---

## Thesis Project Research

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

By Ali Alquraini

---

## Graphics Research

After comparing all the graphic results I reached, I found that Illustrations are easy to animate, create and update. The only problem is they don't reflect the right colors or behavior of Betta fish. 3D graphics are much better than Illustrations but the process of creating and animating it takes long time. High quality digital photographs were the best choice to go with, because they were easy to take and to be animated in a way that can reflect the realistic colors and movement of the fish.



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## Thesis Project Research

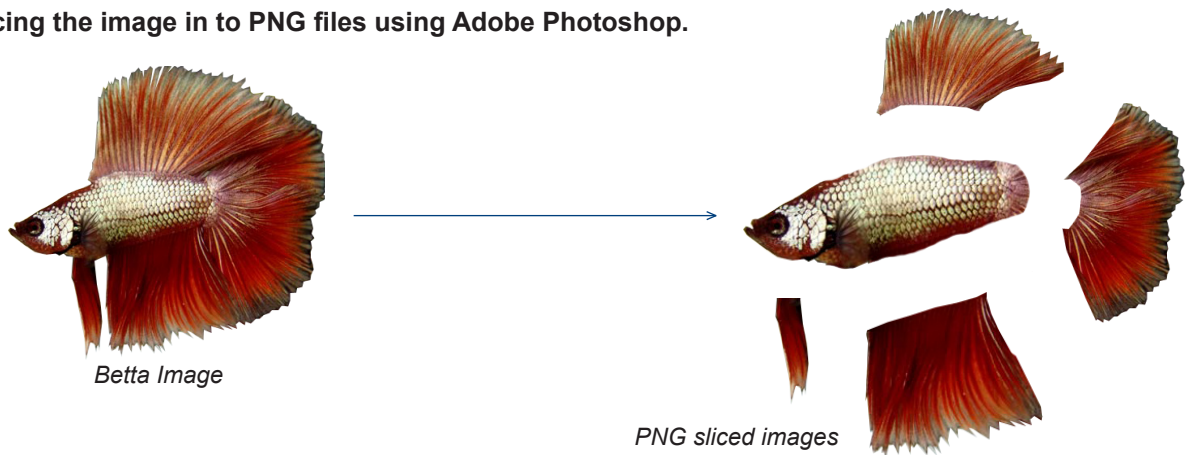
### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH. By Ali Alquraini

---

#### Graphics Research

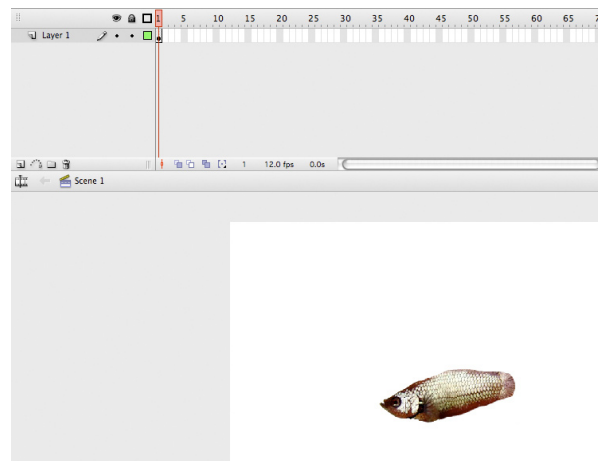
*The process of animating the Betta fish image*

##### 1- Slicing the image in to PNG files using Adobe Photoshop.



##### 2- Animating each slice individually using Adobe Flash.

a- Import the fish body PNG file in the stage.



---

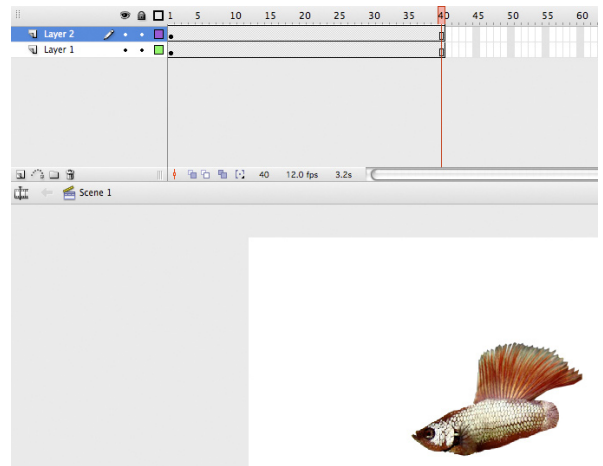
## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

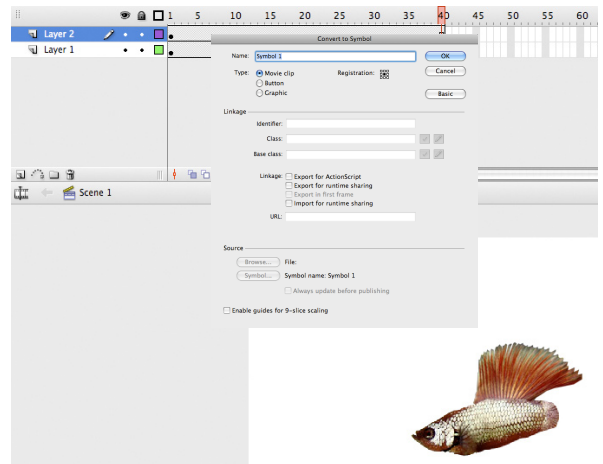
By Ali Alquraini

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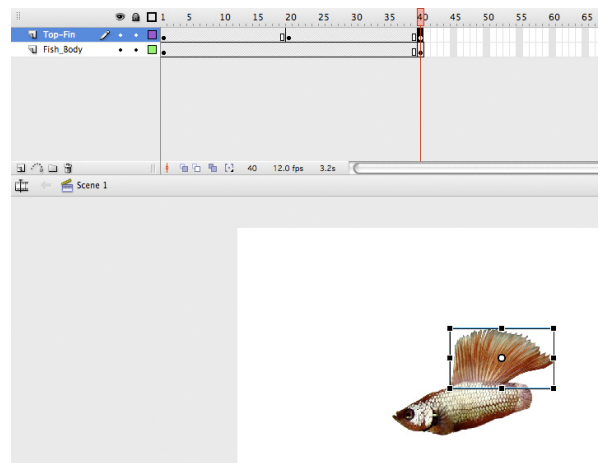
b- Create a new layer and import the top fin file.



c- Convert the top fin layer to a movie clip.



d- Add a key frame in frame 1, 20 and 40.



---

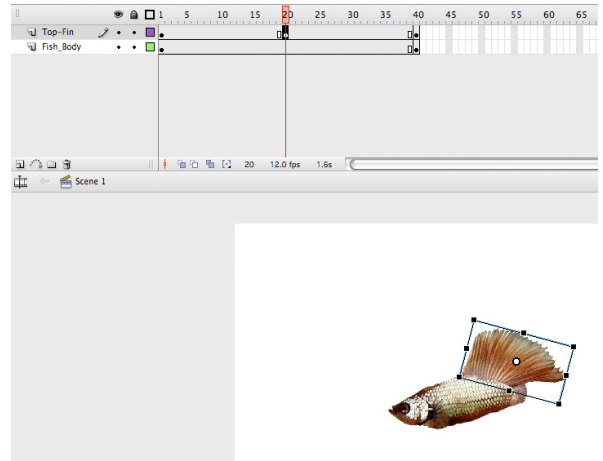
## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

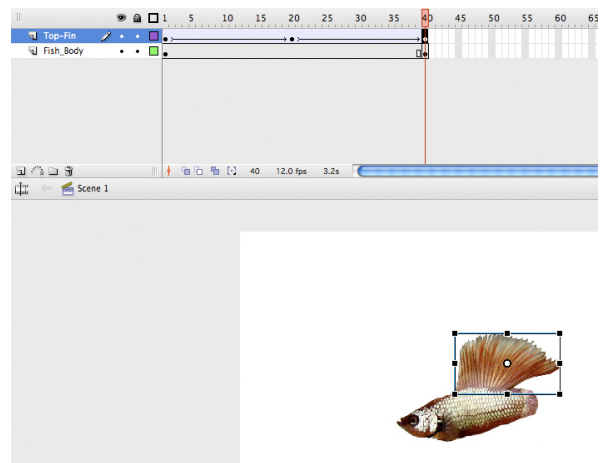
By Ali Alquraini

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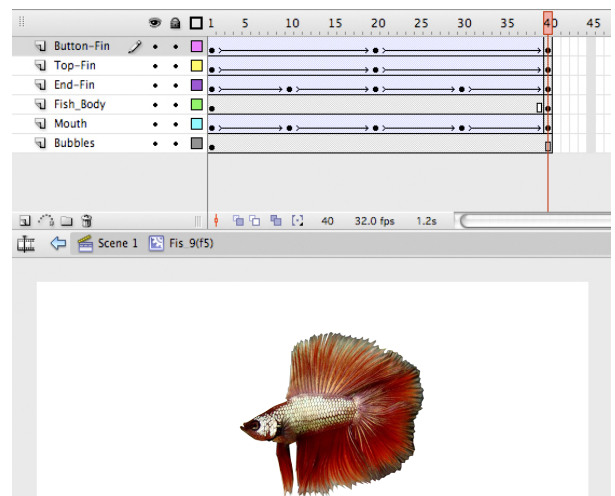
e- In frame 20 create a slight rotation movement for the fin image.



f- Create a motion twain from frame 1 to 20 and from 20 to 40.



g- Repeating the same steps for all the other slices.



---

## Thesis Project Research

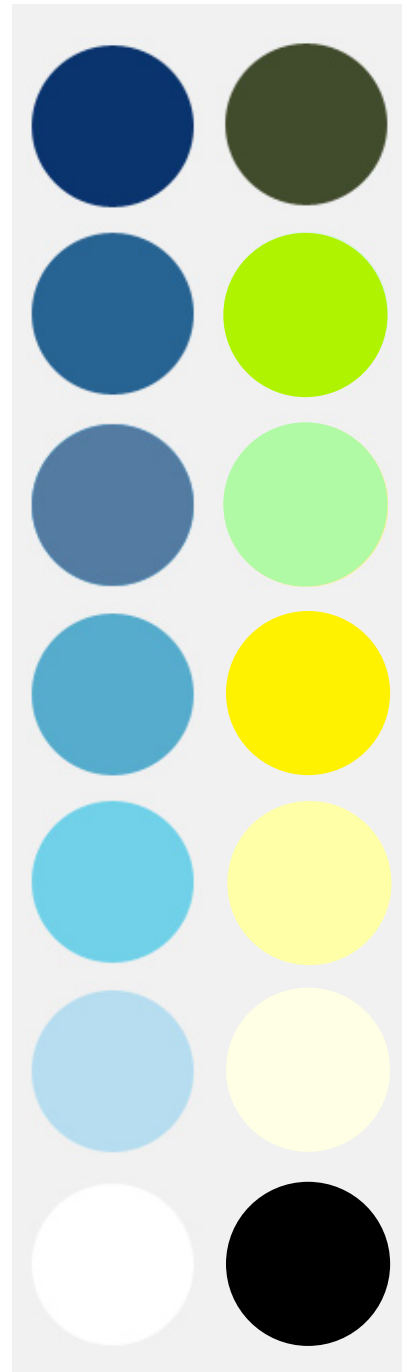
**BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**  
By Ali Alquraini

---

### Color scheme

The colors selection in my thesis project will reflect the underwater environment.

- Blue gradient
- Green gradient
- Yellow gradient
- White
- Black



---

## Thesis Project Research

**BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**  
By Ali Alquraini

---

### Interface design research

#### *First Concept Sketch*

My first idea was to create a 3D environment for my project. I got this idea when I saw one of Windows XP screen savers. It was an under water scene with these 3D fish swimming around the screen.





---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

---

#### Interface design research

##### *First Concept (3D Interface created in Maya)*

I liked the color selection and the 3D depth in this scene. Other Students feed back were positive, and i only got a few comments on the rendering.



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

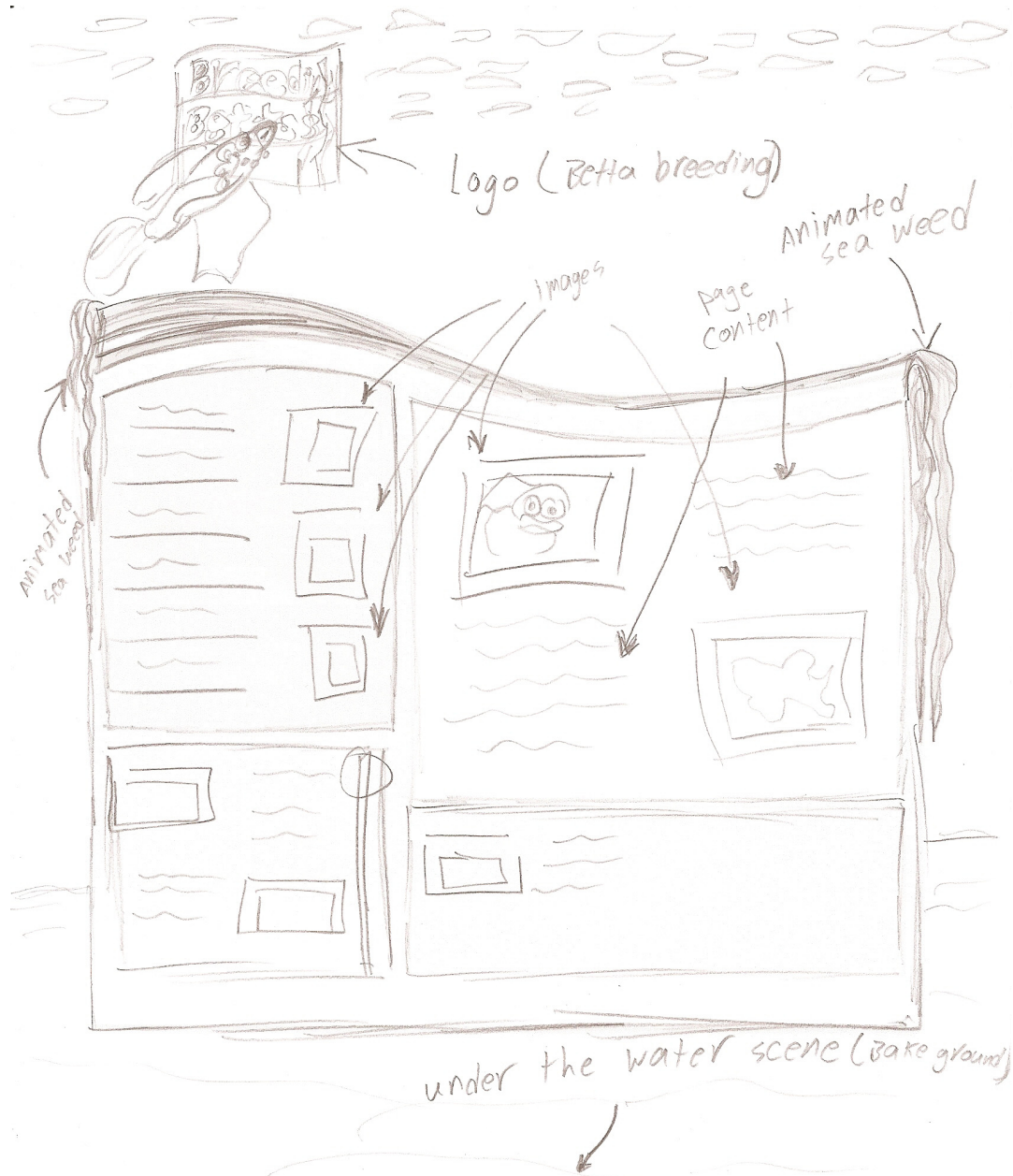
By Ali Alquraini

---

#### Interface design research

##### *Second Concept Sketch*

Since I Choose to work with animated images for my Bettas, I started thinking of creating a 2D concept that will be more effective for my graphic elements. In this theme, my aim was to create a concept that is attractive and simple by offering the content in a floating panel under water with all the links in it.



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

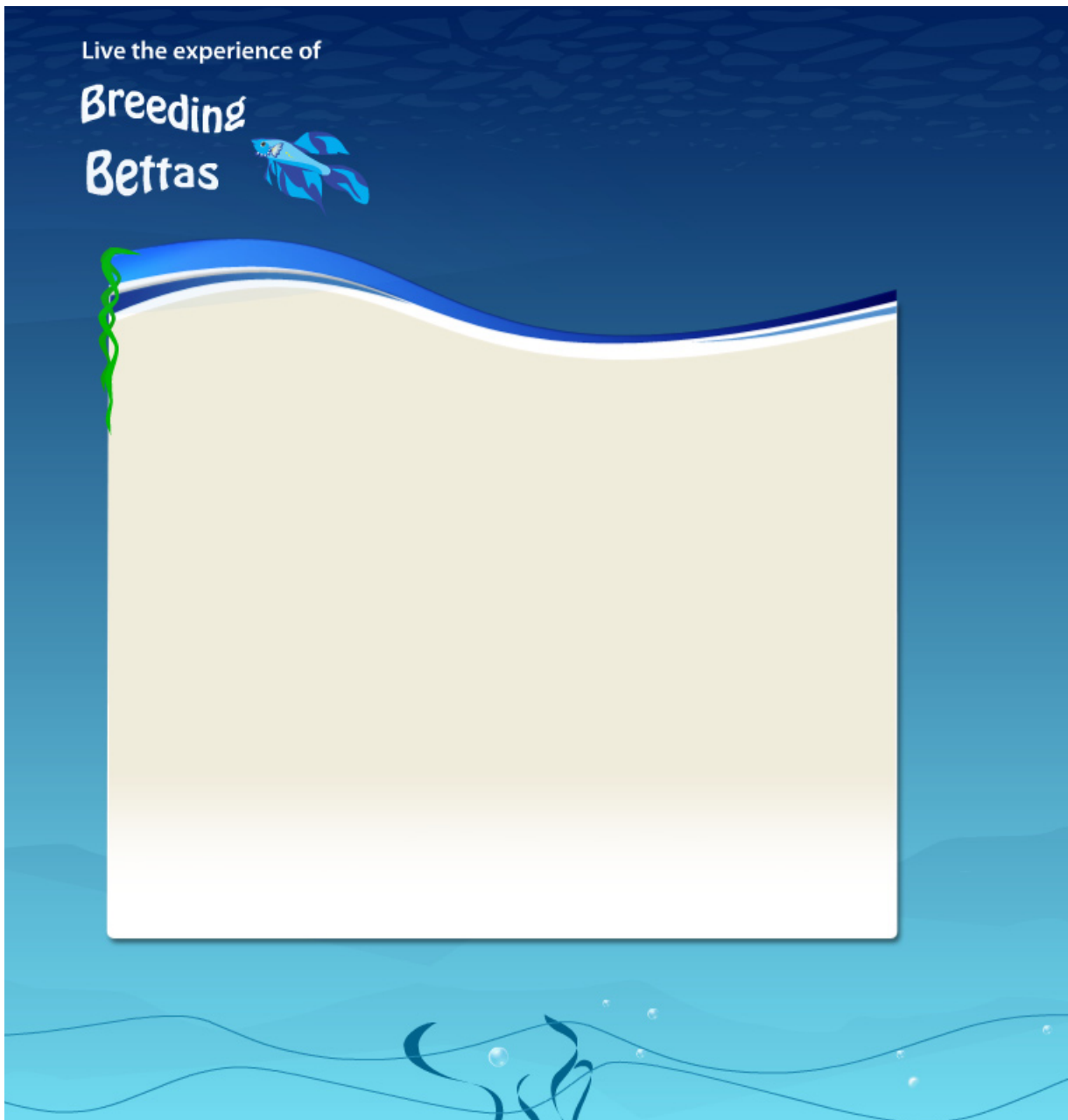
By Ali Alquraini

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#### Interface design research

##### *Second Concept (Illustration Scene created in Adobe Illustrator & Flash)*

This concept was my favorite, because it really matched my graphic elements. Chris Jackson gave me his feedback on changing both my links and my panel in to something more organic.



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## Thesis Project Research

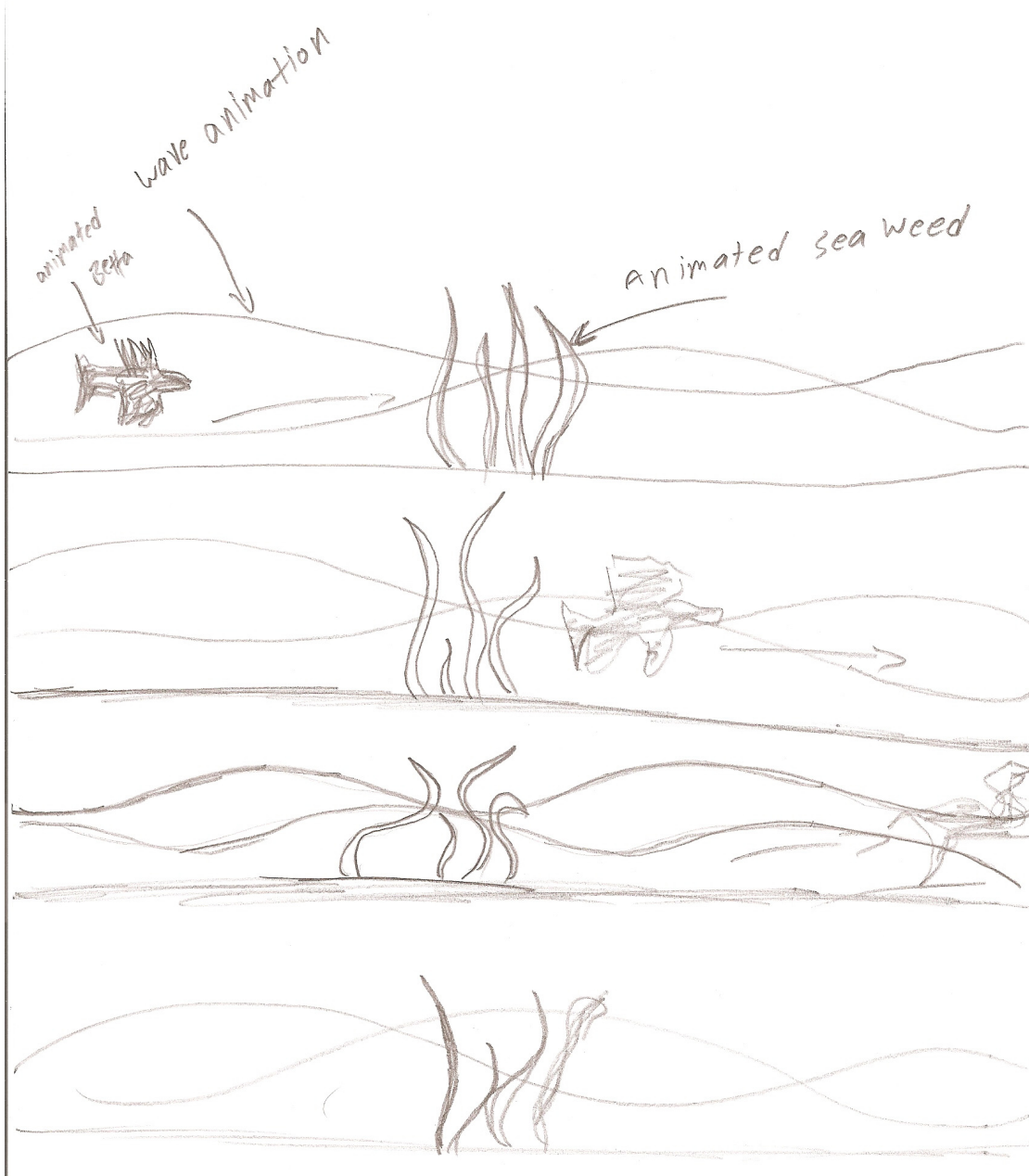
**BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**  
By Ali Alquraini

---

### Interface design research

#### *Second Concept Sketch*

This is a story board that I did for an animated seaweed sequence for my interface.



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

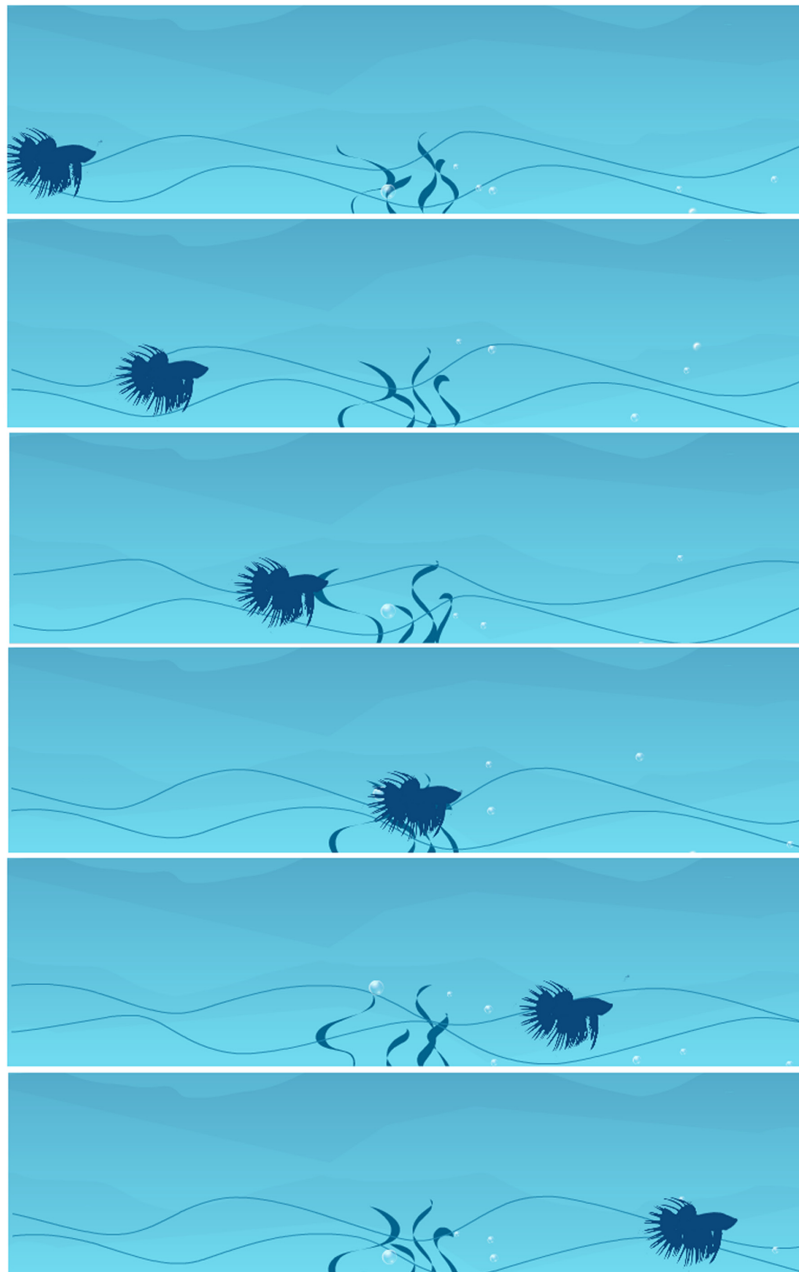
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#### Interface design research

##### *Second Concept (Seaweed animation created in Adobe Illustrator & Flash)*

By using frame by frame animation, the results were excellent in getting a smooth animation for both the seaweed and the water waves.



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

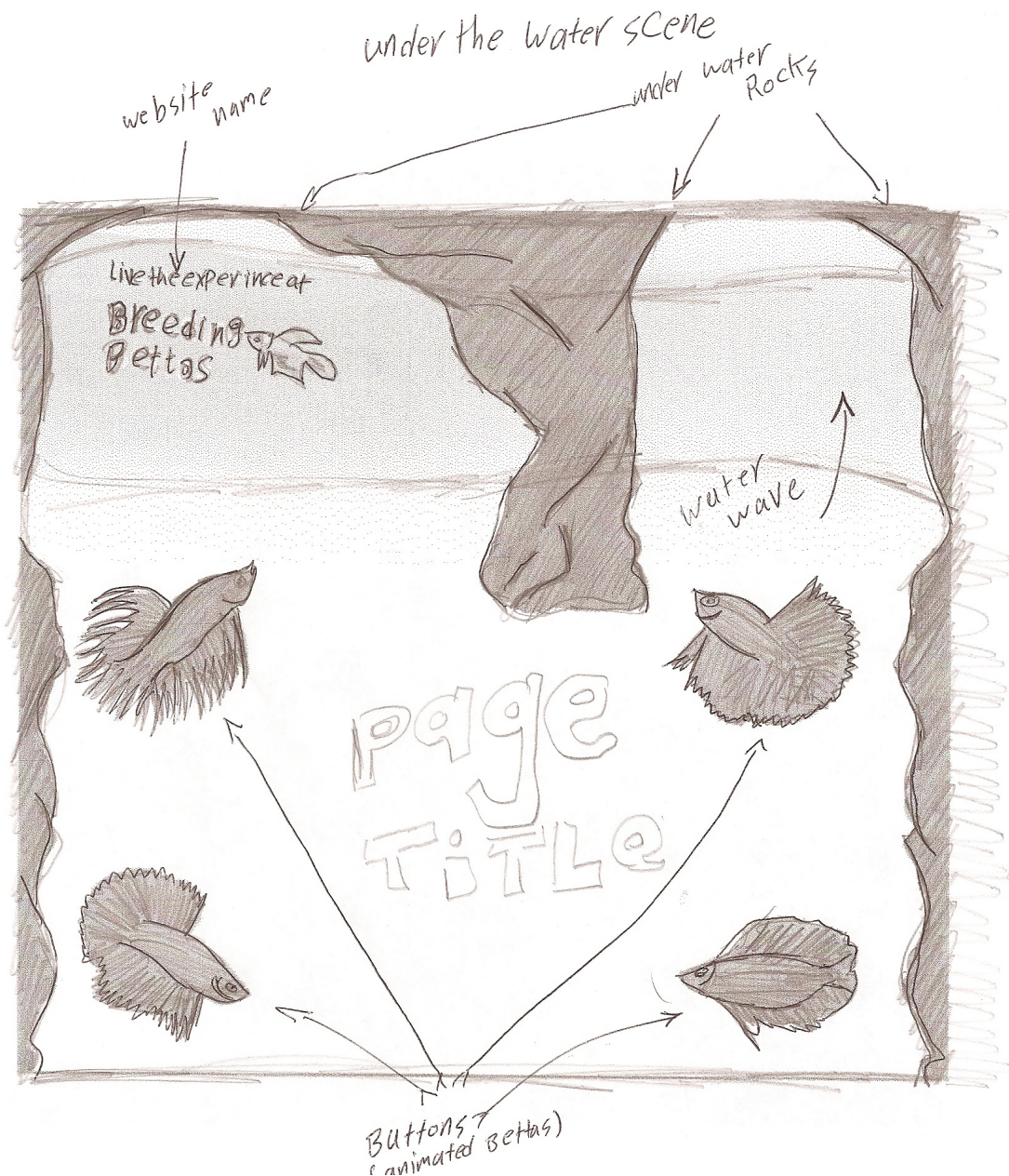
By Ali Alquraini

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#### Interface design research

##### Final Concept Sketch

In this Concept, I took Chris's Advice and started developing my design by avoiding to use any Hard surface buttons or panels in my interface and tried to add more natural elements. I used my animated Bettas to be the links to other sections in my website and added rocks in my background.



---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

---

#### Interface design research

##### *Final Concept (Illustration Scene created in Adobe Illustrator & Flash)*

Home page

This is my final concept that I choose for my home page, because by looking at the interface the user can recognize the main purpose of this website even without reading the page title. Also using big buttons will make it possible to be used on public places kiosks such as pet shops and museums.



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

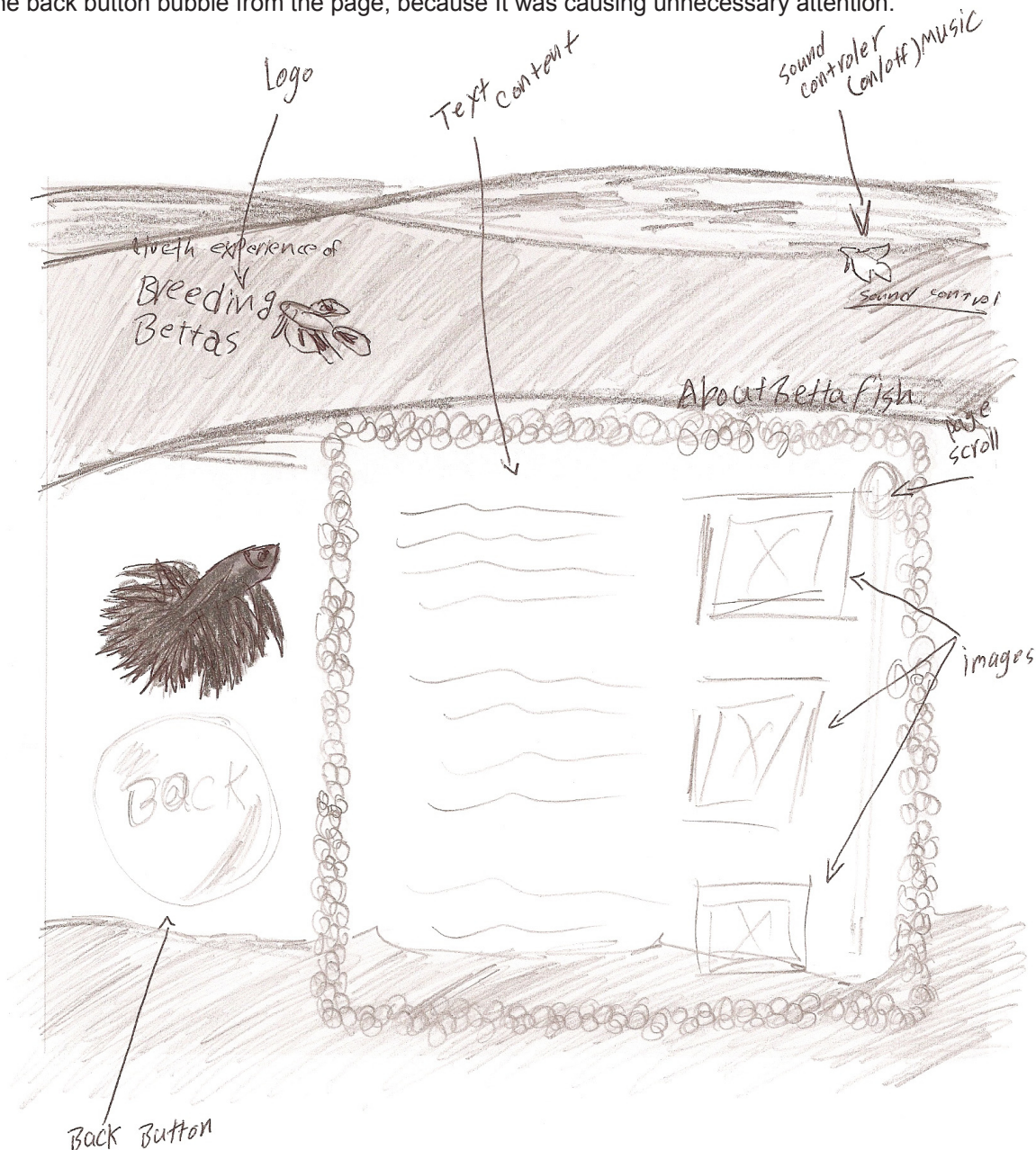
By Ali Alquraini

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#### Interface design research

##### Final Concept Sketch

In my website, I was trying to integrate Betta fish actions during breeding with my interface design. Therefore I choose to add my page content in a bubble frame representing the bubble nest produced by the Betta male, and added a back button shaped like a bubble. During my thesis defence one of the comments I got was to remove the back button bubble from the page, because It was causing unnecessary attention.





---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

---

#### Interface design research

##### *Final Concept (Illustration Scene created in Adobe Illustrator & Flash)*

##### *First section - About Betta fish*

This section will provide the user the necessary information about Bettas. The only problem I had was fitting all the content in the panel, that is why I created a scrollable bubble banner in order to show all the information and images. I choose to keep the same design for all the links in my website to simplify it more for the user.



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## Thesis Project Research

**BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**  
By Ali Alquraini

---

### Interface design research

#### *Final Concept Sketch*



---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

---

#### Interface design research

##### *Final Concept (Illustration Scene)*

##### *Second section - Betta fish gallery*

This section will be a Betta fish image gallery with the most popular types around the world. Also the user can navigate through an under water panoramic gallery and explore them in real life.



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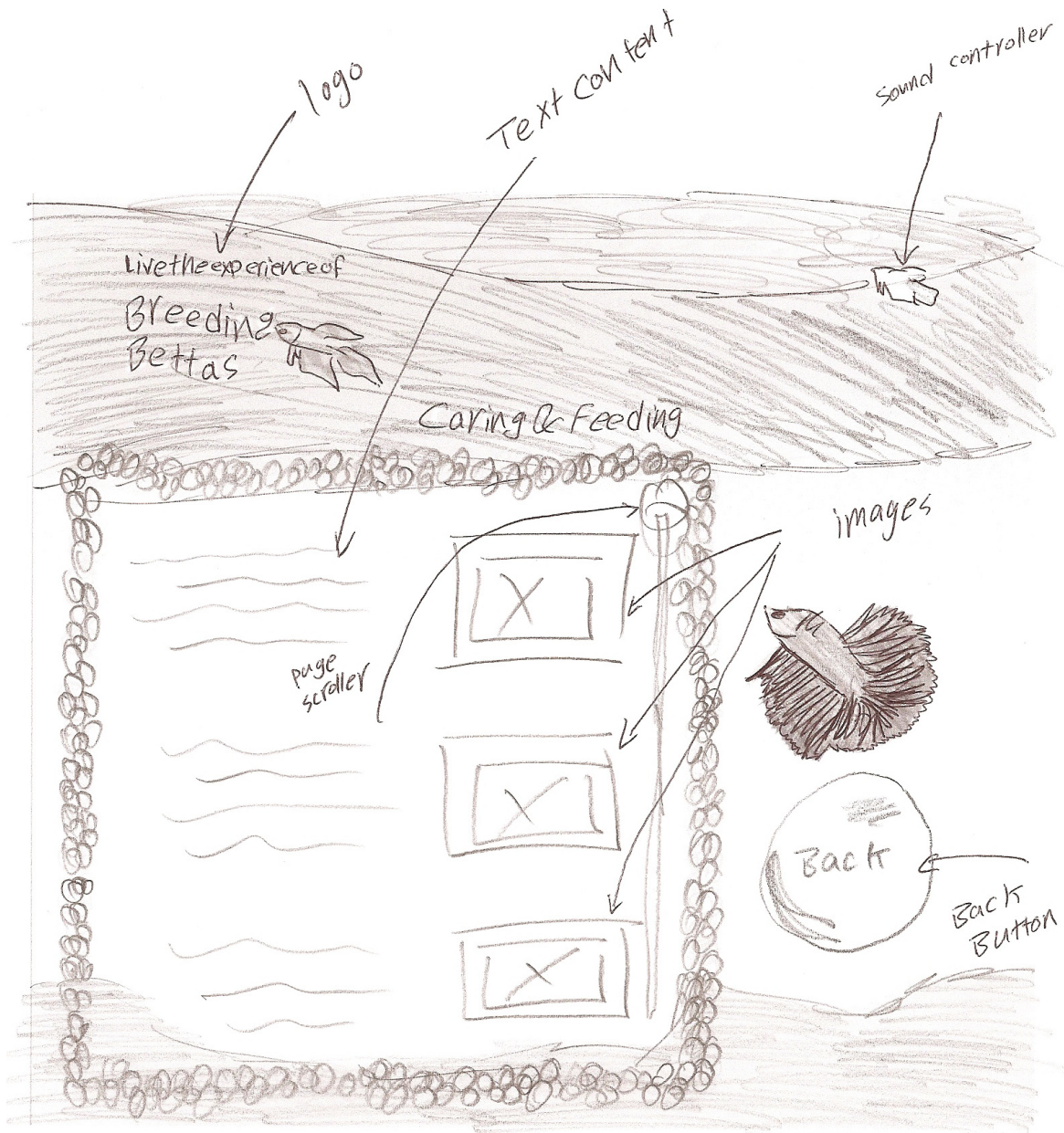
# Thesis Project Research

**BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**  
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---

## Interface design research

### Final Concept Sketch



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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---

#### Interface design research

##### **Final Concept (Illustration Scene)**

*Third section - caring & feeding*

This section will be explaining how to take care of Betta's diet and health.



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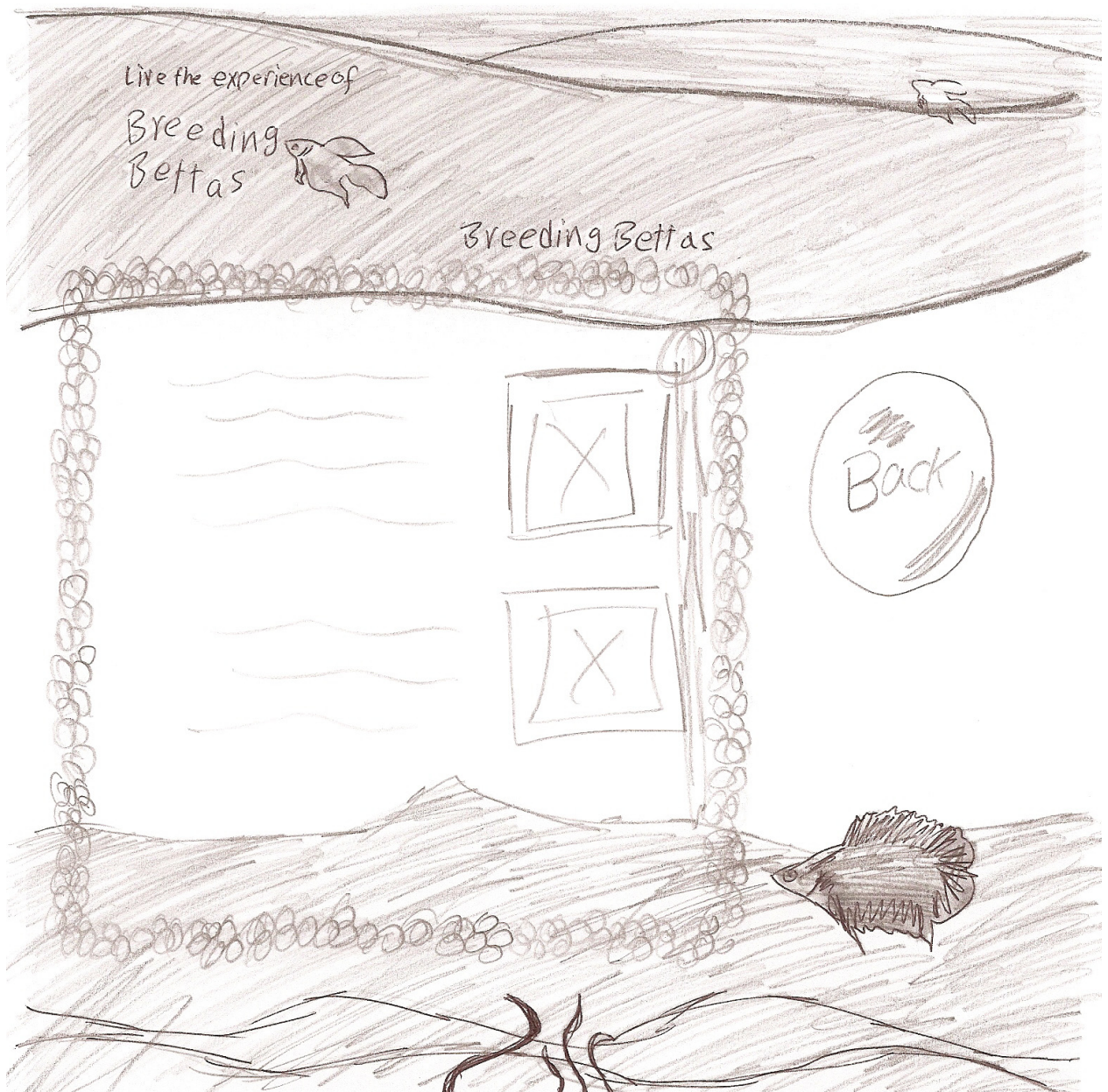
**Thesis Project Research**

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---

**Interface design research**

***Final Concept Sketch***



---

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### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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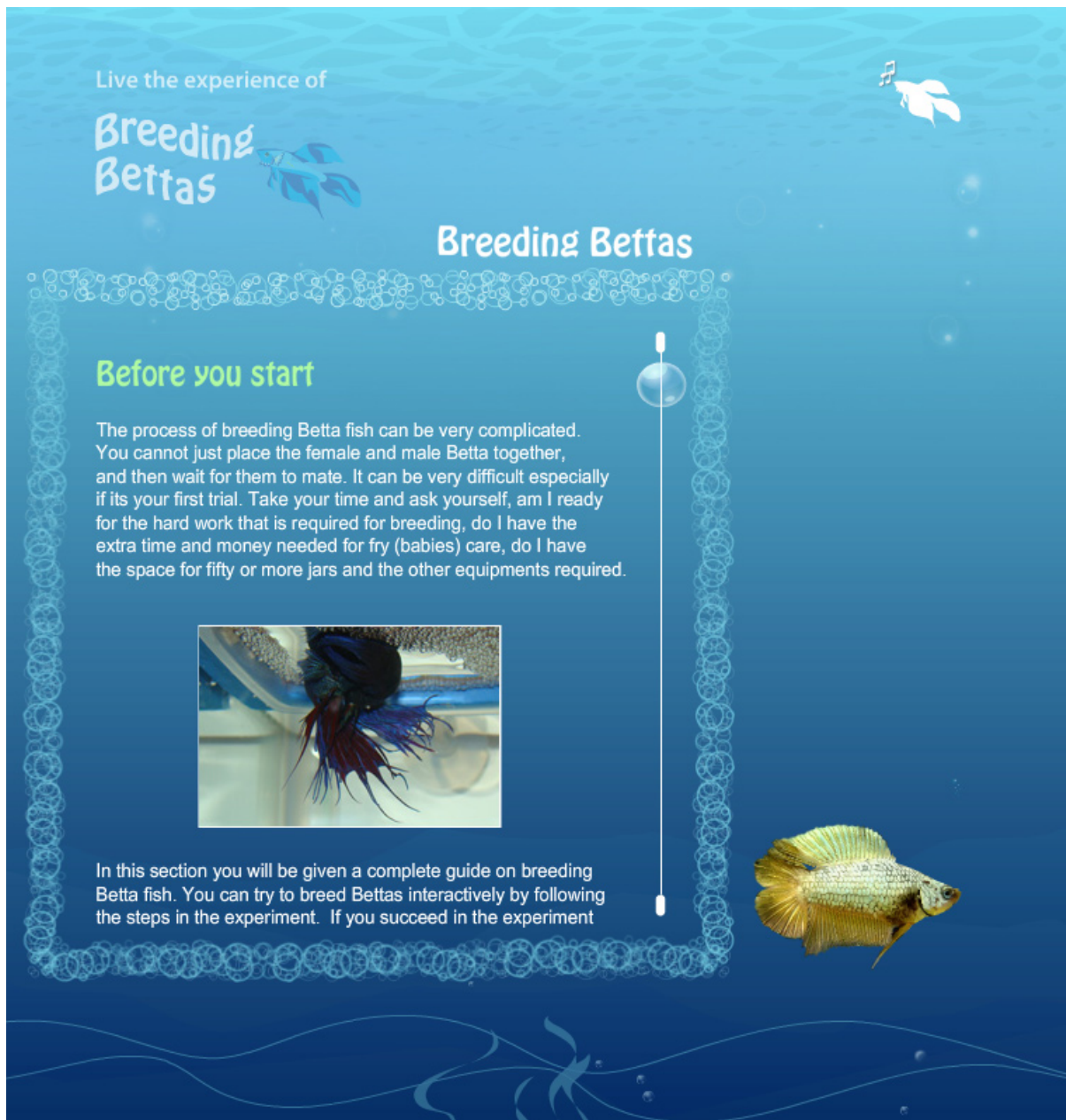
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#### Interface design research

##### *Final Concept (Illustration Scene)*

##### *Fourth section - breeding Bettas*

The breeding section is the main section in my project. It's a section that allows the user to learn about how to breed Bettas and the necessary equipment for doing it.



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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

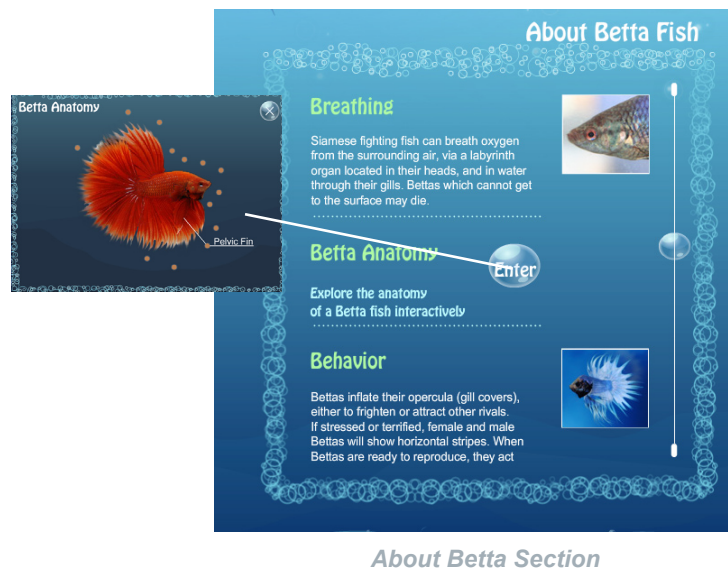
By Ali Alquraini

---

#### Used code samples (Action script 2)

##### *Importing an external swift file*

Since I was trying to decrease the loading time for my website, I created some of my scenes in separate Flash file in order to import them dynamically to my main file.



```
1  stop();
2  //creating an empty movie clip for the imported SWF file
3  createEmptyMovieClip("contentBox1_mc", 200);
4
5  //Positioning the imported SWF file
6  contentBox1_mc._x = 110;
7  contentBox1_mc._y = 230;
8
9
10
```

*This code will create a movie clip holder for an imported SWF file and place it in the main scene.*



---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

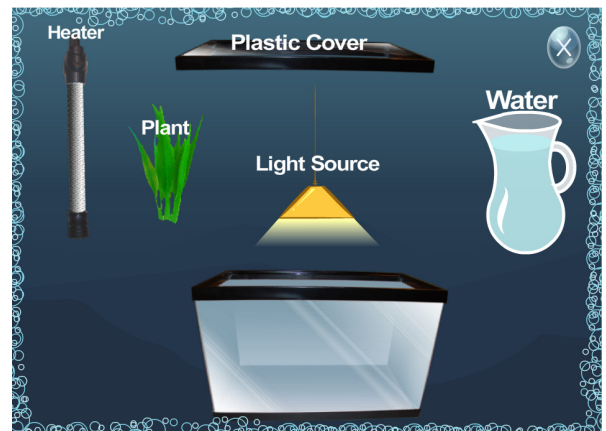
---

#### Used code samples (Action script 2)

##### *Creating a drag and drop mini game*

A part of my project process is to add a mini game which allow the user to try and build the breeding tank interactively by dragging and dropping the objects on the right places. My idea is to introduce the equipment for the user before buying them so that he/she gets familiar with the objects.

```
9 // create a variable to hold the user's score
10 var score = 0;
11 var numberOfPieces = 5;
12
13 // update dynamic text fields
14 myScore_txt.text = score;
15 feedback_txt.text = "";
16
17 // define a function to check for finished objects
18 function checkScore(){
19     if(score == numberOfPieces){
20         feedback_txt.text = "Good job!";
21     }
22 }
```



*Betta Breeding Section*

*This Code hold the user's score and check for the chosen objects.*

```
24 // loop through all the puzzle pieces on the Stage
25 for (var i = 1; i <= numberOfPieces; i++){
26
27 // hide the target objects
28     this["target" + i]._alpha = 0;
29
30     var currentPiece = this["piece"+i];
31
32 // assign an onPress event to each objects
33     currentPiece.onPress = function(){
34         this.startDrag();
35     }
36
37 // assign an onRelease event to each object
38     currentPiece.onRelease = function(){
39         stopDrag();
40         var puzzleNumber = Number(this._name.substr(5));
```

---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

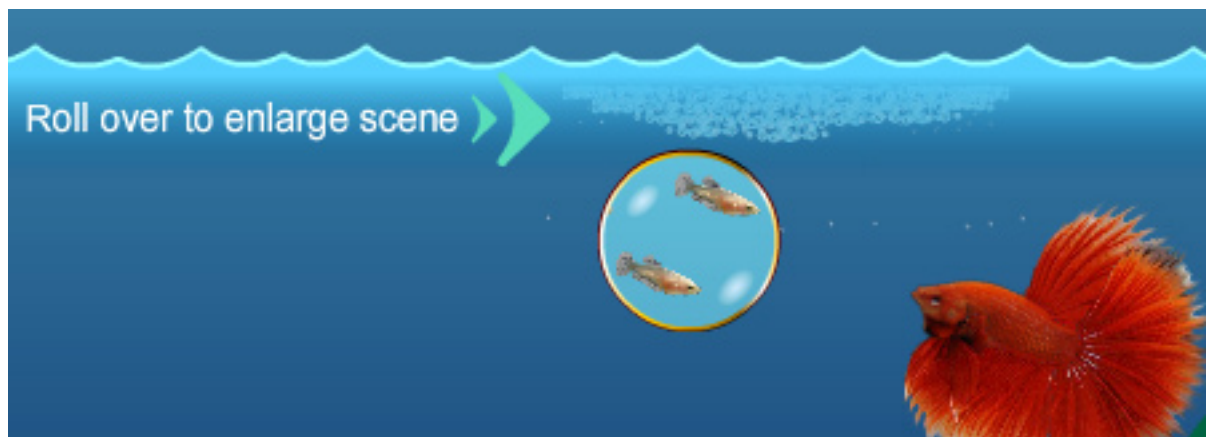
By Ali Alquraini

---

#### Used code samples (Action script 2)

##### *Magnifying lens*

During my Betta breeding experience I used a magnifying lens to clearly observe the Betta fries. A part of my breeding process is to allow the user to see the fish babies using an interactive draggable magnifying lens.



*Betta Breeding Section*

```
1 stop();
2 // when the scene start hide the lence
3 lens_mc._visible = false;
4
5 // when mouse over in the hit point show the lence
6 mona_mc.onRollOver = function(){
7     Mouse.hide();
8     lens_mc._visible = true;
9     lens_mc.startDrag();
10 }
11
12 // when mouse roll out the hit point hide the lence
13 mona_mc.onRollOut = function(){
14     Mouse.show();
15     lens_mc.stopDrag();
16     lens_mc._visible = false;
17 }
18
19 lens_mc.onEnterFrame = function(){
20     // set the position of the glass to the cursor when mouse enter
21     this._x = _root._xmouse;
22     this._y = _root._ymouse;
23     // offset the magnified image to match where the cursor is when mouse enter
24     this.magimage_mc._x = -(_root.lens_mc._x * 2);
25     this.magimage_mc._y = -(_root.lens_mc._y * 2);
26 }
```

*I used this code to create the magnifying lens part in my project.*

---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

---

#### Used code samples (Action script 2)

##### *Panoramic Gallery*

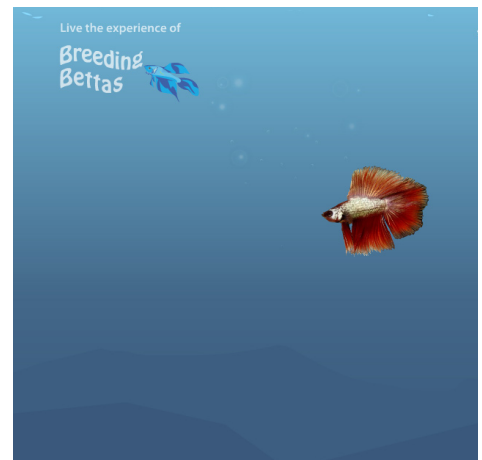
In the gallery section the user will navigate through a panoramic gallery under the water, And he/she can discover some of the Betta fish types to learn more about them.

```
3 // initialize variables
4 // how fast the pano will move
5 var moveAmount:Number = 10;
6 // horiz. center of Stage
7 var centerX:Number = Stage.width/2;
8
9 // max x-position of pano
10 var xmax:Number = pano_mc._width/2;
11 // min x-position of pano
12 var xmin:Number = Stage.width - xmax;
13 // max y-position of pano
14 var ymax:Number = pano_mc._height/2;
15 // min y-position of pano
16 var ymin:Number = Stage.height - ymax;
17
18
```

*This code will control the panoramic image rotation speed depending on the cursor position in the stage.*

```
19 // used for pressing the mouse down
20 var pressed:Boolean = false;
21 // used to control panning speed
22 var speedFactor:Number = 20;
23
24 var startX:Number = 0; // initial dragging _xmouse position
25 var startY:Number = 0; // initial dragging _ymouse position
26
```

*This code will stop the cursor from moving when the mouse is down.*



*Betta Gallery Section*

---

## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

---

#### Used code samples (Action script 2)

##### *Panoramic Gallery*

```
51 // set the cursor position to the mouse location
52 cursor_mc._x = _xmouse;
53 cursor_mc._y = _ymouse;
54
55 xmoveAmount = Math.abs(_xmouse - startX)/speedFactor;
56 if (_xmouse < startX - 10) { panLeft(); }
57 else if (_xmouse > startX + 10 ) { panRight(); }
58
59
60 ymoveAmount = Math.abs(_ymouse - startY)/speedFactor;
61 if (_ymouse < startY - 10) { scrollDown(); }
62 else if (_ymouse > startY + 10 ) { scrollUp(); }
63
64 setCursor();
65 }
66
67 panLeft = function()
68 {
69     pano_mc._x += xmoveAmount;
70     if (pano_mc._x > xmax) { pano_mc._x -= pano_mc._width/2;}
71 }
72
73 panRight = function()
74 {
75     pano_mc._x -= xmoveAmount;
76     if (pano_mc._x < xmin) { pano_mc._x += pano_mc._width/2;}
77 }
78
79 scrollDown = function ()
80 {
81     pano_mc._y += ymoveAmount;
82     if (pano_mc._y > ymax){ pano_mc._y = ymax;}
83 }
84
85 scrollUp = function ()
86 {
87     pano_mc._y -= ymoveAmount;
88     if (pano_mc._y < ymin){ pano_mc._y = ymin;}
89 }
90
91 setCursor = function ()
92 {
93     if (_xmouse < startX - 5) { column = 1;}
94     else if (_xmouse > startX + 5) { column = 3;}
95     else column = 2;
96
97     if (_ymouse < startY - 5) { row = 1;}
98     else if (_ymouse > startY + 5) { row = 3;}
99     else row = 2;
100
101     n = column + (row - 1) * 3;
102     cursor_mc.gotoAndStop(n);
103 }
104
```

*This code will control the location of the cursor on the screen.*

---

# Thesis Project Research

## BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

---

### Evaluation form

I created this evaluation form to get feedback from different types of people. My aim was to try and fix what I missed in my project. These are a few samples from the evaluation forms I got.

#### Breeding Betta website Questionnaire

The questions in this survey refer to my thesis Project Breeding Betta website

Ali Alquraini  
MFA. Computer Graphics Design

#### Evaluator Background

Age \_\_\_\_\_

Occupation \_\_\_\_\_

Gender \_\_\_\_\_

#### Project Evaluation

Please answer the question about yourself below.

Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank.

Please fill in your responses to the following statements based on the project review.

---

- |  | <i>Disagree</i> | ① | ② | ③ | ④ | ⑤ | <i>Agree</i> |
|--|-----------------|---|---|---|---|---|--------------|
| 1- The interface is relevant to the user's needs.              |                 | ① | ② | ③ | ④ | ⑤ |              |
| 2- The website is Easy to navigate.                            |                 | ① | ② | ③ | ④ | ⑤ |              |
| 3- The colors are attractive.                                  |                 | ① | ② | ③ | ④ | ⑤ |              |
| 4- The music and sound effects are effective.                  |                 | ① | ② | ③ | ④ | ⑤ |              |
| 5- The visuals are relevant to user's needs.                   |                 | ① | ② | ③ | ④ | ⑤ |              |
| 6- The colors clearly present the theme of under water.        |                 | ① | ② | ③ | ④ | ⑤ |              |
| 7- The information presented flows logically.                  |                 | ① | ② | ③ | ④ | ⑤ |              |
| 8- The imagery in the website is attention-grabbing.           |                 | ① | ② | ③ | ④ | ⑤ |              |
| 9- The text is easy to read and understand.                    |                 | ① | ② | ③ | ④ | ⑤ |              |
| 10- The breeding process is clear and easy to understand.      |                 | ① | ② | ③ | ④ | ⑤ |              |
| 11- The user will gain new knowledge after using this website. |                 | ① | ② | ③ | ④ | ⑤ |              |
| 12- Other Suggestions.   |                 |   |   |   |   |   |              |

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# Thesis Project Research

## BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project Breeding Betta website

Ali Alquraini  
MFA, Computer Graphics Design

**Evaluator Background**

Age 19 Occupation Engineering Student Gender male

**Project Evaluation**  
Please answer the question about yourself below. Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank. Please fill in your responses to the following statements based on the project review.

1- The interface is relevant to the user's needs.	Disagree	(1) (2) (3) (4) (5)	Agree
2- The website is Easy to navigate.		(1) (2) (3) (4) (5)	
3- The colors are attractive.		(1) (2) (3) (4) (5)	
4- The music and sound effects are effective.		(1) (2) (3) (4) (5)	
5- The visuals are relevant to user's needs.		(1) (2) (3) (4) (5)	
6- The colors clearly present the theme of under water.		(1) (2) (3) (4) (5)	
7- The information presented flows logically.		(1) (2) (3) (4) (5)	
8- The imagery in the website is attention-grabbing.		(1) (2) (3) (4) (5)	
9- The text is easy to read and understand.		(1) (2) (3) (4) (5)	
10- The breeding process is clear and easy to understand.		(1) (2) (3) (4) (5)	
11- The user will gain new knowledge after using this website.		(1) (2) (3) (4) (5)	
12- Other Suggestions.			

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**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project Breeding Betta website

Ali Alquraini  
MFA, Computer Graphics Design

**Evaluator Background**

Age 20 Occupation Education Gender Male

**Project Evaluation**  
Please answer the question about yourself below. Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank. Please fill in your responses to the following statements based on the project review.

1- The interface is relevant to the user's needs.	Disagree	(1) (2) (3) (4) (5)	Agree
2- The website is Easy to navigate.		(1) (2) (3) (4) (5)	
3- The colors are attractive.		(1) (2) (3) (4) (5)	
4- The music and sound effects are effective.		(1) (2) (3) (4) (5)	
5- The visuals are relevant to user's needs.		(1) (2) (3) (4) (5)	
6- The colors clearly present the theme of under water.		(1) (2) (3) (4) (5)	
7- The information presented flows logically.		(1) (2) (3) (4) (5)	
8- The imagery in the website is attention-grabbing.		(1) (2) (3) (4) (5)	
9- The text is easy to read and understand.		(1) (2) (3) (4) (5)	
10- The breeding process is clear and easy to understand.		(1) (2) (3) (4) (5)	
11- The user will gain new knowledge after using this website.		(1) (2) (3) (4) (5)	
12- Other Suggestions.			

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**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project Breeding Betta website

Ali Alquraini  
MFA, Computer Graphics Design

**Evaluator Background**

Age 21 Occupation student (Mechanical Eng.) Gender M

**Project Evaluation**  
Please answer the question about yourself below. Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank. Please fill in your responses to the following statements based on the project review.

1- The interface is relevant to the user's needs.	Disagree	(1) (2) (3) (4) (5)	Agree
2- The website is Easy to navigate.		(1) (2) (3) (4) (5)	
3- The colors are attractive.		(1) (2) (3) (4) (5)	
4- The music and sound effects are effective.		(1) (2) (3) (4) (5)	
5- The visuals are relevant to user's needs.		(1) (2) (3) (4) (5)	
6- The colors clearly present the theme of under water.		(1) (2) (3) (4) (5)	
7- The information presented flows logically.		(1) (2) (3) (4) (5)	
8- The imagery in the website is attention-grabbing.		(1) (2) (3) (4) (5)	
9- The text is easy to read and understand.		(1) (2) (3) (4) (5)	
10- The breeding process is clear and easy to understand.		(1) (2) (3) (4) (5)	
11- The user will gain new knowledge after using this website.		(1) (2) (3) (4) (5)	
12- Other Suggestions.			

Very nice.  
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**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project Breeding Betta website

Ali Alquraini  
MFA, Computer Graphics Design

**Evaluator Background**

Age 26 Occupation Student Gender Female

**Project Evaluation**  
Please answer the question about yourself below. Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank. Please fill in your responses to the following statements based on the project review.

1- The interface is relevant to the user's needs.	Disagree	(1) (2) (3) (4) (5)	Agree
2- The website is Easy to navigate.		(1) (2) (3) (4) (5)	
3- The colors are attractive.		(1) (2) (3) (4) (5)	
4- The music and sound effects are effective.		(1) (2) (3) (4) (5)	
5- The visuals are relevant to user's needs.		(1) (2) (3) (4) (5)	
6- The colors clearly present the theme of under water.		(1) (2) (3) (4) (5)	
7- The information presented flows logically.		(1) (2) (3) (4) (5)	
8- The imagery in the website is attention-grabbing.		(1) (2) (3) (4) (5)	
9- The text is easy to read and understand.		(1) (2) (3) (4) (5)	
10- The breeding process is clear and easy to understand.		(1) (2) (3) (4) (5)	
11- The user will gain new knowledge after using this website.		(1) (2) (3) (4) (5)	
12- Other Suggestions.			

- Add some Betta Females in the Betta Gallery section.  
- looks great.  
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\_\_\_\_\_

# Thesis Project Research

## BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project  
Breeding Betta website

Ali Alquraini  
MFA, Computer Graphics Design

**Evaluator Background**

Age 21 Occupation Student Gender FEMALE

**Project Evaluation**  
Please answer the question about yourself below.  
Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank.  
Please fill in your responses to the following statements based on the project review.

	Disagree	①	②	③	④	⑤	Agree
1- The interface is relevant to the user's needs.		①	②	③	④	⑤	
2- The website is Easy to navigate.		①	②	③	④	⑤	
3- The colors are attractive.		①	②	③	④	⑤	
4- The music and sound effects are effective.		①	②	③	④	⑤	
5- The visuals are relevant to user's needs.		①	②	③	④	⑤	
6- The colors clearly present the theme of under water.		①	②	③	④	⑤	
7- The information presented flows logically.		①	②	③	④	⑤	
8- The imagery in the website is attention-grabbing.		①	②	③	④	⑤	
9- The text is easy to read and understand.		①	②	③	④	⑤	
10- The breeding process is clear and easy to understand.		①	②	③	④	⑤	
11- The user will gain new knowledge after using this website.		①	②	③	④	⑤	
12- Other Suggestions.							

*- Adding voice narration to the Breeding section will be Great and Clear.*

**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project  
Breeding Betta website

Ali Alquraini  
MFA, Computer Graphics Design

**Evaluator Background**

Age 27 Occupation Student Gender Male

**Project Evaluation**  
Please answer the question about yourself below.  
Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank.  
Please fill in your responses to the following statements based on the project review.

	Disagree	①	②	③	④	⑤	Agree
1- The interface is relevant to the user's needs.		①	②	③	④	⑤	
2- The website is Easy to navigate.		①	②	③	④	⑤	
3- The colors are attractive.		①	②	③	④	⑤	
4- The music and sound effects are effective.		①	②	③	④	⑤	
5- The visuals are relevant to user's needs.		①	②	③	④	⑤	
6- The colors clearly present the theme of under water.		①	②	③	④	⑤	
7- The information presented flows logically.		①	②	③	④	⑤	
8- The imagery in the website is attention-grabbing.		①	②	③	④	⑤	
9- The text is easy to read and understand.		①	②	③	④	⑤	
10- The breeding process is clear and easy to understand.		①	②	③	④	⑤	
11- The user will gain new knowledge after using this website.		①	②	③	④	⑤	
12- Other Suggestions.							

*- Add a message board for users.*

**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project  
Breeding Betta website

Ali Alquraini  
MFA, Computer Graphics Design

**Evaluator Background**

Age 24 Occupation Student Gender M

**Project Evaluation**  
Please answer the question about yourself below.  
Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank.  
Please fill in your responses to the following statements based on the project review.

	Disagree	①	②	③	④	⑤	Agree
1- The interface is relevant to the user's needs.		①	②	③	④	⑤	
2- The website is Easy to navigate.		①	②	③	④	⑤	
3- The colors are attractive.		①	②	③	④	⑤	
4- The music and sound effects are effective.		①	②	③	④	⑤	
5- The visuals are relevant to user's needs.		①	②	③	④	⑤	
6- The colors clearly present the theme of under water.		①	②	③	④	⑤	
7- The information presented flows logically.		①	②	③	④	⑤	
8- The imagery in the website is attention-grabbing.		①	②	③	④	⑤	
9- The text is easy to read and understand.		①	②	③	④	⑤	
10- The breeding process is clear and easy to understand.		①	②	③	④	⑤	
11- The user will gain new knowledge after using this website.		①	②	③	④	⑤	
12- Other Suggestions.							

*- A shopping section might be Great to Add, like allowing people to buy Bettas online.*

**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project  
Breeding Betta website

Ali Alquraini  
MFA, Computer Graphics Design

**Evaluator Background**

Age 19 Occupation student Gender Male

**Project Evaluation**  
Please answer the question about yourself below.  
Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank.  
Please fill in your responses to the following statements based on the project review.

	Disagree	①	②	③	④	⑤	Agree
1- The interface is relevant to the user's needs.		①	②	③	④	⑤	
2- The website is Easy to navigate.		①	②	③	④	⑤	
3- The colors are attractive.		①	②	③	④	⑤	
4- The music and sound effects are effective.		①	②	③	④	⑤	
5- The visuals are relevant to user's needs.		①	②	③	④	⑤	
6- The colors clearly present the theme of under water.		①	②	③	④	⑤	
7- The information presented flows logically.		①	②	③	④	⑤	
8- The imagery in the website is attention-grabbing.		①	②	③	④	⑤	
9- The text is easy to read and understand.		①	②	③	④	⑤	
10- The breeding process is clear and easy to understand.		①	②	③	④	⑤	
11- The user will gain new knowledge after using this website.		①	②	③	④	⑤	
12- Other Suggestions.							

*- Good Job, I would like to use it online.*

# Thesis Project Research

## BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project Breeding Betta website

Ali Alquraini  
MFA.Computer Graphics Design

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**Evaluator Background**

Age 24 Occupation student Gender Female

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**Project Evaluation**  
Please answer the question about yourself below.  
Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank.  
Please fill in your responses to the following statements based on the project review.

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	Disagree	1	2	3	4	5	Agree
1- The interface is relevant to the user's needs.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
2- The website is Easy to navigate.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
3- The colors are attractive.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
4- The music and sound effects are effective.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
5- The visuals are relevant to user's needs.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
6- The colors clearly present the theme of under water.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
7- The information presented flows logically.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
8- The imagery in the website is attention-grabbing.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
9- The text is easy to read and understand.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10- The breeding process is clear and easy to understand.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11- The user will gain new knowledge after using this website.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
12- Other Suggestions.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

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**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project Breeding Betta website

Ali Alquraini  
MFA.Computer Graphics Design

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**Evaluator Background**

Age 26 Occupation Accounting Gender Male

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**Project Evaluation**  
Please answer the question about yourself below.  
Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank.  
Please fill in your responses to the following statements based on the project review.

---

	Disagree	1	2	3	4	5	Agree
1- The interface is relevant to the user's needs.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
2- The website is Easy to navigate.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
3- The colors are attractive.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
4- The music and sound effects are effective.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
5- The visuals are relevant to user's needs.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
6- The colors clearly present the theme of under water.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
7- The information presented flows logically.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
8- The imagery in the website is attention-grabbing.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
9- The text is easy to read and understand.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10- The breeding process is clear and easy to understand.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11- The user will gain new knowledge after using this website.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
12- Other Suggestions.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

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**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project Breeding Betta website

Ali Alquraini  
MFA.Computer Graphics Design

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**Evaluator Background**

Age 28 Occupation Doctor Gender Male

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**Project Evaluation**  
Please answer the question about yourself below.  
Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank.  
Please fill in your responses to the following statements based on the project review.

---

	Disagree	1	2	3	4	5	Agree
1- The interface is relevant to the user's needs.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
2- The website is Easy to navigate.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
3- The colors are attractive.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
4- The music and sound effects are effective.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
5- The visuals are relevant to user's needs.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
6- The colors clearly present the theme of under water.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
7- The information presented flows logically.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
8- The imagery in the website is attention-grabbing.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
9- The text is easy to read and understand.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10- The breeding process is clear and easy to understand.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11- The user will gain new knowledge after using this website.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
12- Other Suggestions.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

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**Breeding Betta website Questionnaire**  
The questions in this survey refer to my thesis Project Breeding Betta website

Ali Alquraini  
MFA.Computer Graphics Design

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**Evaluator Background**

Age 22 Occupation Student Gender M

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**Project Evaluation**  
Please answer the question about yourself below.  
Your responses are anonymous and will be kept strictly confidential. If you don't understand a question, please leave it blank.  
Please fill in your responses to the following statements based on the project review.

---

	Disagree	1	2	3	4	5	Agree
1- The interface is relevant to the user's needs.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
2- The website is Easy to navigate.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
3- The colors are attractive.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
4- The music and sound effects are effective.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
5- The visuals are relevant to user's needs.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
6- The colors clearly present the theme of under water.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
7- The information presented flows logically.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
8- The imagery in the website is attention-grabbing.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
9- The text is easy to read and understand.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
10- The breeding process is clear and easy to understand.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
11- The user will gain new knowledge after using this website.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
12- Other Suggestions.		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

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#### User's feedback

I've tested my project on people from different majors and ages in order to get different suggestions and comments. It was hard to find people in Rochester who are interested in Betta fish, and it was going to take a while to get feedback from people online since most of them I knew are only YouTube users.

#### Questions

- ***Why don't you add Betta females in the fish gallery?***  
People mostly are interested in male Bettas, because of their beautiful colors and fins.
- ***Why don't you add a voice narration to your breeding process?***  
I think adding a voice narration will be a great idea; I will try and add it in the future.
- ***Why don't you add a message board to your website?***  
Personally I think it's not a good thing to do, since I will be using my project in touch screens as well. And I think there are currently some websites uses message boards to share ideas and thoughts.
- ***Why don't you add a shopping section in the website?***  
It is actually one of my future ideas to sell this project to one of the pet stores companies, and offer their Betta fish products in it.

#### Thesis Show Gallery

In the thesis show gallery, I offer people a short survey to fill-in for me in order to get their feedback and comments for my project. Also I offered them free Bettas to allow them to explore my website later and email me back with any new comment they have.

#### New Feed Back

Most of the feedback I got from people were about thanking me for the free Betta fish I gave them.

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## Thesis Project Research

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

By Ali Alquraini

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## Conclusion

I have developed a new method of using Flash interactivity with fish care. The existence of this project will allow users to pursue these techniques for other types of animals and pets such as (wild animals, expensive pets, dangerous animals, and other types of fish). My work has focused on caring and spawning Betta fish interactively. The main reason for this project is to allow the user to experience a Betta fish breeding project and to learn more about this fish before even buying the fish itself with all the necessary equipment.

I have shown that this method is capable of reflecting a realistic care for Betta fish, including Breeding, Feeding, Caring, and learning more about it. However, my project suffers from a problem of speed; using frame by frame animation and PNG images to create my Betta fish made some parts in my scene play really slow on any computer lower than 2.00 GHz. It does, however, provide the user with the desired speed by decreasing graphics quality from high to medium.

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## Thesis Project Research

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

By Ali Alquraini

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## Bibliography

### **Books**

- **AQUARIUM CARE OF BETTAS**

By David E. Boruchowiyz

Boruchowitz, David E. Aquarium Care of Bettas. 1. First Edition. Ed. Brian M. Scott. Neptune City, NJ 07753: Discovery Communications, 2006.

- **BETTAS A COMPLETE INTRODUCTION**

By Walt Maurus

Maurus, Walt. BETTAS A COMPLETE INTRODUCTION. 1. 1st ed. Neptune City, NJ 07753: T.F.H Publications, Inc, 2003.

- **YOUR HAPPY HEALTHY PET BETTA**

By John H. Tullock

Tullock, John H. YOUR HAPPY HEALTHY PET BETTA. 2. 2nd ed. U.S.A: Wiley Publishing, Inc, 2006.

- **HOLLYWOOD 2D DIGITAL ANIMATION**

By Richard M. Sherman

Sherman, Richard M. HOLLYWOOD 2D DIGITAL ANIMATION. 1. First. Boston, MA 02201: Thomson Course Technology, 2004.

- **FLASH 3D (ANIMATION, INTERACTIVE, AND GAMES).**

By Jim Ver Hague & Chris Jackson

Jackson, Chris, and Jim V. Hague. FLASH 3D. Ed. Georgia Kennedy. USA: Focal Press, 2006.

- **ACTION SCRIPT FOR FLAH 8**

By Kristian Besley, Sham Bhangal,

David Pwers and Eric Dolecki

Besley, Kristian, et al. ACTION SCRIPT FOR FLAH 8. U.S.A: Apress company, 2006.

- **THE ANIMATOR'S SURVIVAL KIT**

By Richard Williams

Williams, Richard. THE ANIMATOR'S SURVIVAL KIT. Second. U.S.A: Faber and Faber, 2001.

- **Multimedia Based Instructional Design**

By William Lee and Diana Owens

Owens, Diana L. Multimedia Based Instructional Design. Ed. Susan Rachmeler. San Francisco, CA 94101: Jossey Bass/Pfeiffer, 2000.

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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

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## Bibliography

### *Internet Resources*

- **Siamese Fighting Fish**  
**By Shirlye Sharpe**

Sharpe, Shirlye. "Siamese Fighting Fish." <http://freshaquarium.about.com>. 17 Apr. 2008. <<http://freshaquarium.about.com/cs/anabantids2/p/betta.htm>>.

- **Siamese Fighting Fish**  
**From Wikipedia, the free encyclopedia**

"Siamese Fighting Fish." <http://en.wikipedia.org/>. 15 Feb. 2008. <[http://en.wikipedia.org/wiki/Betta\\_fish](http://en.wikipedia.org/wiki/Betta_fish)>.

- **Education system using interactive 3D computer graphics (3D-CG) animation and scenario language for teaching materials.**  
**By Matsuda, Hiroshi, Shindo, Yoshiaki**

Yoshiaki, Matsuda H. "Education system using interactive 3D computer graphics (3D-CG) animation and scenario language for teaching materials." <http://www.ingentaconnect.com>. 17 Nov. 2007. <<http://www.ingentaconnect.com/content/routledg/riie/2006/00000043/00000002/art00006>>.

- **Computer Graphic World**  
**Market Outlook & News**  
**By Athleen Maher, senior analyst, Jon Peddie Research**

Maher, Athleen, senior analyst, and Jon Peddie. "Computer Graphic World." <http://www.cgw.com>. 21 Sep. 2007. <<http://www.cgw.com/ME2/dirmod.asp?sid=293489783F8B4BF1A771D796FB3431B7&nm=CGW&type=Publishing&mod=Publications%3A%3AArticle&mid=8F3A7027421841978F18BE895F87F791&tier=4&id=4C7C38F735D443A094C0C90E50935521>>.

- **Visualization**  
**By Marla Schweppe, Director of Visualization**

Schweppe, Marla. "Visualization." <http://www.rit.edu>. 10 Oct. 2006. <<http://www.rit.edu/~visualiz/intro.html>>.

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## Thesis Project Research

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

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#### Credits

##### *websites*

<http://www.flavorgames.com>

<http://www.bettatalk.com>

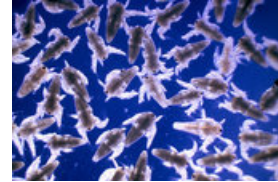
<http://www.bettafish.com>

<http://www.youtube.com>

##### *images*

Brine shrimp image in the project - Caring and feeding section

[www.gettyimages.com](http://www.gettyimages.com)



Copyrighted  
[www.gettyimages.com](http://www.gettyimages.com)

##### *Used softwares*

Adobe Photoshop CS3

Adobe Flash CS3

Adobe Illustrator CS3

Adobe Indesign CS3

Adobe Acrobat 8 Professional

Microsoft word 2008

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## **Part B**

### Thesis Proposal

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## Thesis Proposal for the Master of Fine Arts Degree

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

By Ali Alquraini

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#### **Introduction**

Computer Graphics is considered to be one of the most creative tools available. Computers are a part of our daily activities and are used in creative, productive and professional jobs. We can find them everywhere: they organize the flow of information in our banking transactions, digitize our voice and remove some of the noise in telephone conversation, control the fuel injection systems in our cars, fine-tune the settings in digital and video cameras and control many other things. Computers are able to improve the image quality and offer a series of creative tools that support the art of interactivity. The art of interactivity is the art of bringing something to life and communicates with the audience by presenting the idea using visual effects in technology. It is difficult to imagine that only a few decades ago computers and digital technology had no role in animation, effects and entertainment. Recently there has been a huge leap in computer animation. A lot of people are attracted to this technology and love to work in this field, and I am one of them. This new media is mostly used for entertainment and this made lots of companies focus only on 2D and 3D animation production. I thought of a different use in this technology which is to join computer graphics with pet caring.

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## Thesis Proposal for the Master of Fine Arts Degree

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

By Ali Alquraini

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#### **Thesis title:**

Breeding Bettas: An interactive study to the breeding and caring of Siamese fighting fish.

#### **Problem Statement**

My thesis is an exploration in designing online content that uses multiple media formats. The goal is to determine which combination of media elements provides the best user experience for an instructional website on Betta fish.

Being a fish lover is the main reason for me to choose this topic. I discovered that this area is lacking in interactive web content. This made me work on my favorite type of fish (Betta fish), because caring and specially breeding them requires accurate steps in order to reach the expected results. I will try and prove that Flash interactivity can serve my favorite hobby and open new doors for general fish care?

#### **Background**

Computer graphics is the creation, collection, storage, manipulation and presentation of images and models of objects. In the last ten years we have noticed the huge leap in the technology of computer graphics and how it started taking affects different fields and usage in our daily life, such as engineering, science, art, medicine, entertainment, advertisement and education.

Advances in computer technology have made interactive graphic systems a practical tool in a variety of areas and made it easier to navigate through. By creating a multimedia product that includes video, sound, image and animation, the user will be provided with several options in viewing information which will be easier for him to digest. Since all the results were positive for using this technology in the fields that we are familiar with, why not using it with Betta fish care (Siamese fighting fish)?

During my weekly visits to pet shops, I have been asked several times from people that I meet about how to deal with breeding this beautiful fish. It's a really hard task that includes a specific steps that the breeder should follow in order to reach what he seeks. Knowing that all the current websites that deal with Betta care are just text based pages with images, I have a good opportunity to apply a multimedia solution.



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## Thesis Proposal for the Master of Fine Arts Degree

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

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#### **Scope**

This thesis searches for a better result that can answer the most important questions about how to care, feed and breed Bettas. I will include different types of media information supporting all the user's need. It will be divided into three main sections allowing people to navigate through an interactive online Betta care website which will let them try the experiment of adapting and breeding the fish before even buying it.

The first section will be about the types of Bettas, and what's the different between them.

The requirements and feeding the fish will be the second part. And finally the third part will be a virtual video game that allows the user to adopt a Betta fish and try living the experience of having a real one, by allowing him to feed and Breed the fish online.

#### **Limitation**

Most of the current resources available are limited in Bettas breeding videos, so I will have to do my own experiments in order to achieve a better clear result in offering it to the user in high quality. Also getting all needed equipments will take time as some of them are not available in this area (Rochester) and very expensive. There is no guarantee that I will be able to raise the Betta's fry, as the required food is hard to get in this Area and need to be brought from abroad. All the Betta's female sold in stores around this area are very young to use for breeding, therefore I will either try to raise them until they are ready for the experiment or I will have to bring them in perfect age from abroad.

Creating the virtual game will be a challenge for me, so I will need some assistance in doing some of the technical parts of the game. Since my thesis project will be done using Flash CS3, I might have some problems dealing with ActionScript 3.0 (AS3), because almost all of my projects and experiments were done using ActionScript 2.0 (AS2).

#### **Methodology**

The first step is to try and look through books and both online and magazines articles in order to see the current information available that will assist me in doing my research. Also I will search the web for similar websites that uses the same techniques that I will be following, such as interactive applications, video games, illustrations, videos and animations. I need to improve my skills in using (AS3) or I might do it using (AS2) in Flash.

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## Thesis Proposal for the Master of Fine Arts Degree

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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#### Peer Review:

My Plan is to test my Interactive website first in SIGGRAPH in order to get it reviewed by expert users in the field of interactivity. Second I will try and get more feed back by testing it with Betta lovers either online or in pet stores touch screen kiosks. I'll try not risk losing my Idea by keeping all my project process and updates in a secured website that will only be viewable by me and my thesis Committee. Keeping In mind that this is a thesis project for now, changes may be added later in order to reach the target user.

#### Implications

When presenting this thesis project, several of people will understand better how to care feed, knowledge and breed Betta fish. Moreover this experience will help them understand the right steps to follow in order to achieve what they seek in Betta world, and support them in solving any troubles or problems they had in earlier practice. This thesis will explore the effects of Computer Graphics Design on pet care in terms of establishing a solid ground for CGD to join animal care in general such as (Dangerous pets, Expensive Pets and Other kind of fish). The aim of this thesis is to find out how designers can use graphic and interactivity as a visual communication tool to increase people's awareness toward caring or breeding Betta fish.

#### Software and Hardware Requirement

- A PC with at least Pentium4 processor or a Macintosh G5.
- Either a PC (XP) or a Mac (leopard).
- 2.5GHz Intel Core 2 Duo
- 2GB ram memory.
- A normal computer Speakers.
- A normal computer colored monitor.
- A minimum of 512 internet connection speed.

#### Target Audience

**Audience:**

Male and female Betta fish lovers

**Age:**

16 years and above

**Educational level:**

High school and above

**Motivational level:**

A new experience in using interactivity with pets.

**Experience with Thesis Subject Matter:**

Educational and entertainment.

**Language:**

English

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## Thesis Proposal for the Master of Fine Arts Degree

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

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#### **Scenarios**

##### ***Andy***

Andy is a 16 year old boy, his interest in Betta fish was growing with him since the age of 5. His mother bought him his first Betta fish when he was 15 years old as a birthday gift. Sadly his birthday gift did not last long, because he lacked important information about Betta fish. After this incident Andy was very disappointed and thought that he would never be able to keep a Betta again. He explained the story to his friends at school, and they suggested that it was better to know about the fish before buying it. So he decided to start learning more about Betta fish by searching the web. Andy was expecting to see a full explanation with clear images and videos for his problem. Unfortunately he found that most of the websites were full of text with few images which made him stop doing his research.

##### ***Sara***

Sara is a 20 year old collage student who got her first Betta fish when she left her family for school. She was enjoying her time with her Betta for the last 2 years, and started thinking of getting another one in order to breed them. She wanted to make sure if she will be able to breed them, as the required equipments are expensive. She started looking for some one to demonstrate the right process in breeding Betta. Unfortunately no one could help solve her problem. Her final hope was to search the web for useful information that might help her learn the steps of breeding her fish. Luckily she ended up using breeding Betta wesbite which offered her the experience of breeding Bettas through an online game without spending her money. After succeeding in this game, she was more confident and ready to buy all the equipments required.

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## Thesis Proposal for the Master of Fine Arts Degree

### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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#### Marketing plan.

When completing this thesis project, the following committees will be addressed to submit my final interactive graphics product piece to them:

- SIGGRAPH
- Pet shops
- Zoo's
- A CDROM in Pets Magazines

#### Thesis project & Breeding budget

##### *Breeding budget:*

• 10 gallon tank		\$10
• Water heater	\$20	
• Male Betta fish		\$6
• Female Betta fish		\$3
• Betta Fish Food		\$3
• Breeding Food (Blood Worms)		\$ 9
• Aquarium plant		\$7
• Aquarium light		\$20
• Betta Fry Food (fish babies)	\$7	

**Total** **\$85**

##### *Thesis project budget:*

• Adobe CS3 Design Premium	\$523	
• A Pentium 4 computer (PC)	\$800	
• Computer monitor		\$300
• Sound speakers		\$40
• Hosting services for a website	\$160	

**Total** **\$1823**

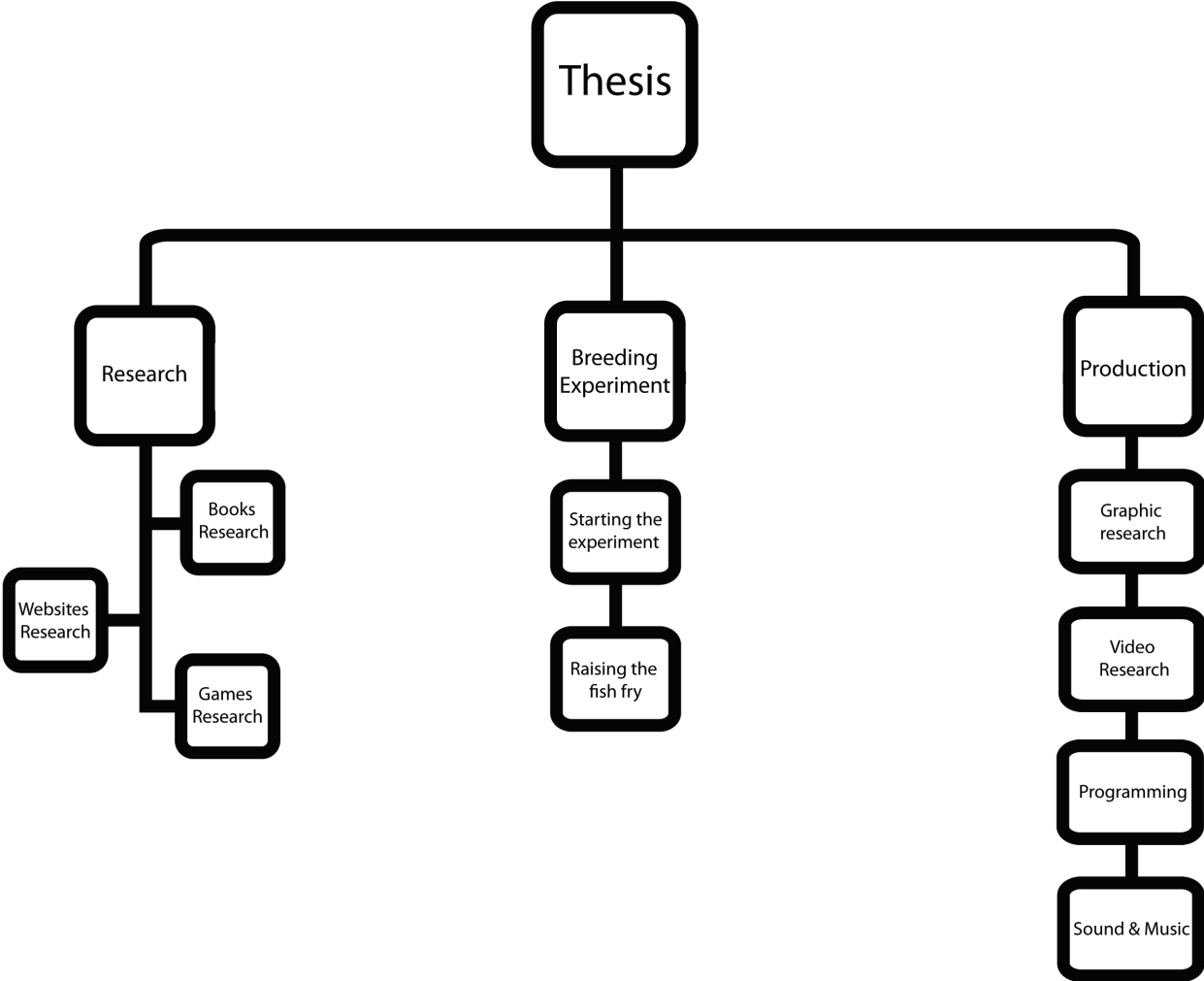
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**Thesis Proposal for the Master of Fine Arts Degree**

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**Thesis research process flow chart**  
*image (1)*



*image (1)*

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## Thesis Proposal for the Master of Fine Arts Degree

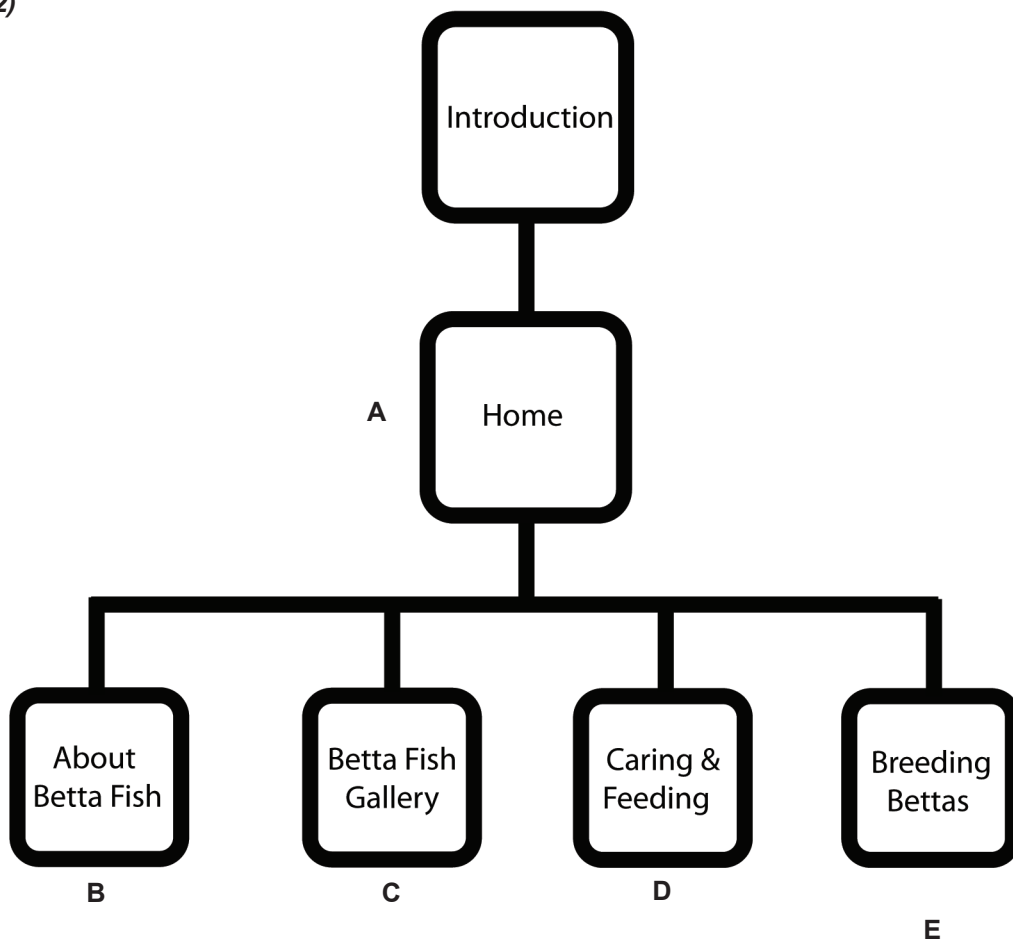
### BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

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#### Project Content Flow Chart

*image (2)*



*image (2)*

- A** - In this section the user can navigate through the website and will be offered a short explanation for the main purpose of this website.
- B** - This section will be very useful to the user especially if he's new to this field.
- C** - This section will be offering a selection of high quality images and an interactive panoramic fish gallery that explain the types of betas in the world.
- D** - This section will explain the types of Betta food and how to care for them.
- E** - In this section the user will be offered instructions of what things he need to prepare before breeding and will start his interactive Betta breeding.

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## Thesis Proposal for the Master of Fine Arts Degree

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

By Ali Alquraini

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## Survey of Literature

### *Books*

#### **AQUARIUM CARE OF BETTAS**

By David E. Boruchowiyz

**Boruchowitz, David E. Aquarium Care of Bettas. 1. First Edition. Ed. Brian M. Scott. Neptune City, NJ 07753: Discovery Communications, 2006.**

This book provides all of the necessary information to set up and maintain a Betta in your home. You'll find details on aquarium or bowl selection, lighting, temperature control and nutrition. Diseases and injuries affecting Bettas are discussed and how to prevent them.

The book also contains a detailed section discussing the different types of betas and how to breed them.

#### **BETTAS A COMPLETE INTRODUCTION**

By Walt Maurus

**Maurus, Walt. BETTAS A COMPLETE INTRODUCTION. 1. 1st ed. Neptune City, NJ 07753: T.F.H Publications, Inc, 2003.**

This book covers every topic of importance to anyone interested in keeping Betta fish. Information is provided about the different types of Bettas. All aspects of housing and feeding are discussed. Environmental conditions for spawning Bettas and introduction of the breeders is explained in detail with colorful photos illustrating all the steps of breeding. Finally the author provides the necessary information to raise the fry.

#### **YOUR HAPPY HEALTHY PET BETTA**

By John H. Tullock

**Tullock, John H. YOUR HAPPY HEALTHY PET BETTA. 2. 2nd ed. U.S.A: Wiley Publishing, Inc, 2006.**

This book gives information and advice you need, illustrated throughout with full-color photographs. The first part of the book covers general information on bettas. The guide helps you with everything from preparing for your betta to maintaining an environment where it will thrive. It covers: setting up an interesting aquarium, plants for the betta tank, choosing non-aggressive tank mates, maintaining a healthy tank and healthy fish, feeding and breeding your betta.

#### **HOLLYWOOD 2D DIGITAL ANIMATION**

By Richard M. Sherman

**Sherman, Richard M. HOLLYWOOD 2D DIGITAL ANIMATION. 1. First. Boston, MA 02201: Thomson Course Technology, 2004.**

This book is written for designers with intermediate Flash skills, it is a great choice for general Flash users to gain professional techniques in developing, character, design, preproduction, production, effects creation, pitching, sales and distribution. Also reading this book is helpful for using 3D wire frames with Flash for marketing purposes.

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## Thesis Proposal for the Master of Fine Arts Degree

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

By Ali Alquraini

---

## Survey of Literature

### ***Books***

#### **FLASH 3D (ANIMATION, INTERACTIVE, AND GAMES).**

By Jim Ver Hague & Chris Jackson

**Jackson, Chris, and Jim V. Hague. FLASH 3D. Ed. Georgia Kennedy. USA: Focal Press, 2006.**

This book covers the ways of using 2D graphics in Flash to create a 3D environment in a two dimensional Scene by walking you through a step by step process until to reach the final result. It also provides several tips of creating and animating depth in different types of projects such as games, panoramic images, and instructional applications.

#### **ACTION SCRIPT FOR FLAH 8**

By Kristian Besley, Sham Bhangal,  
David Pwers and Eric Dolecki

**Besley, Kristian, et al. ACTION SCRIPT FOR FLAH 8. U.S.A: Apress company, 2006.**

This book covers the basics of using action script 2 in Flash like variables, arrays, loops, conditionals, etc, no need to have a programming experience. It also walks you through creating simple coded video games and websites and how you can manage your action script by using classes in your programming.

#### **THE ANIMATOR'S SURVIVAL KIT**

By Richard Williams

**Williams, Richard. THE ANIMATOR'S SURVIVAL KIT. Second. U.S.A: Faber and Faber, 2001.**

This book covers the principles of creating a frame by frame animation for beginner's .It takes from the most basics hand drawing exercises until computer animating for different actions such as (walking cycle, reactions, face expressions, jumping, etc).

#### **Multimedia Based Instructional Design**

By William Lee and Diana Owens

**Owens, Diana L. Multimedia Based Instructional Design. Ed. Susan Rachmeler. San Francisco, CA 94101: Jossey Bass/Pfeiffer, 2000.**

This book contains great planning strategies for designing multimedia instructional materials. It clearly presents the interactive design methodology and links it to the development of e-learning. In each chapter the writer tries to provide several practical experience tools to monitor the plan.



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## Thesis Proposal for the Master of Fine Arts Degree

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

By Ali Alquraini

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## Survey of Literature

### *Internet Resources*

#### **Siamese Fighting Fish**

By Shirlie Sharpe

About, Inc., A part of The New York Times Company 2007

<http://freshaquarium.about.com/cs/anabantids2/p/betta.htm>

The author provides a complete profile of betta fish. The main subject of the article is habitat, diet and breeding Bettas. First she gives a general description of Bettas including size, life span and origin. She then explains how you can provide the best environment for the Bettas like the temperature, pH of the water and accesses to the water surface. The different types of food available for Bettas are listed. Finally the breeding process is described.

#### **Siamese Fighting Fish**

From Wikipedia, the free encyclopedia

GNU Free Documentation License

2 October 2007

[http://en.wikipedia.org/wiki/Betta\\_fish](http://en.wikipedia.org/wiki/Betta_fish)

This article provides a general review on Siamese fighting fish. The Life span, diet and the environment of Bettas is discussed. The article lists the different types of bettas with photos showing the different tail shapes and colors. The wide range of colors is the result of selective breeding. The behavior of both genders is compared and their interactions discussed.

#### **Education system using interactive 3D computer graphics (3D-CG) animation and scenario language for teaching materials.**

By Matsuda, Hiroshi, Shindo, Yoshiaki

Document Type: Research article

October, 9 2006

<http://www.ingentaconnect.com/content/routledg/riie/2006/00000043/00000002/art00006>

This article gives the latest way in using 3D computer graphics (3D-CG) animation with virtual actor's talking and demonstrates their usefulness in an educational medium. This new educational program is designed to ease on self learning students by an interactive communication between the virtual teacher and the learner.

#### **Computer Graphic World**

Market Outlook & News

By Athleen Maher, senior analyst, Jon Peddie Research

October, 10 2006

<http://www.cgw.com/ME2/dirmod.asp?sid=293489783F8B4BF1A771D796FB3431B7&nm=CGW&type=Publishing&mod=Publications%3A%3AArticle&mid=8F3A7027421841978F18BE895F87F791&tier>

This article discusses how companies are benefiting from digital video content production by creating better images and newer services. The author states that Broadcast companies are shifting to digital technology to increase the efficiencies of their production. The author believes that our daily activity does not include a lot of available technology which can tremendously transform our way of living.

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## Thesis Proposal for the Master of Fine Arts Degree

### **BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.**

By Ali Alquraini

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## Survey of Literature

### *Internet Resources*

#### **Visualization**

**By Marla Schweppe, Director of Visualization**

**October, 10 2006**

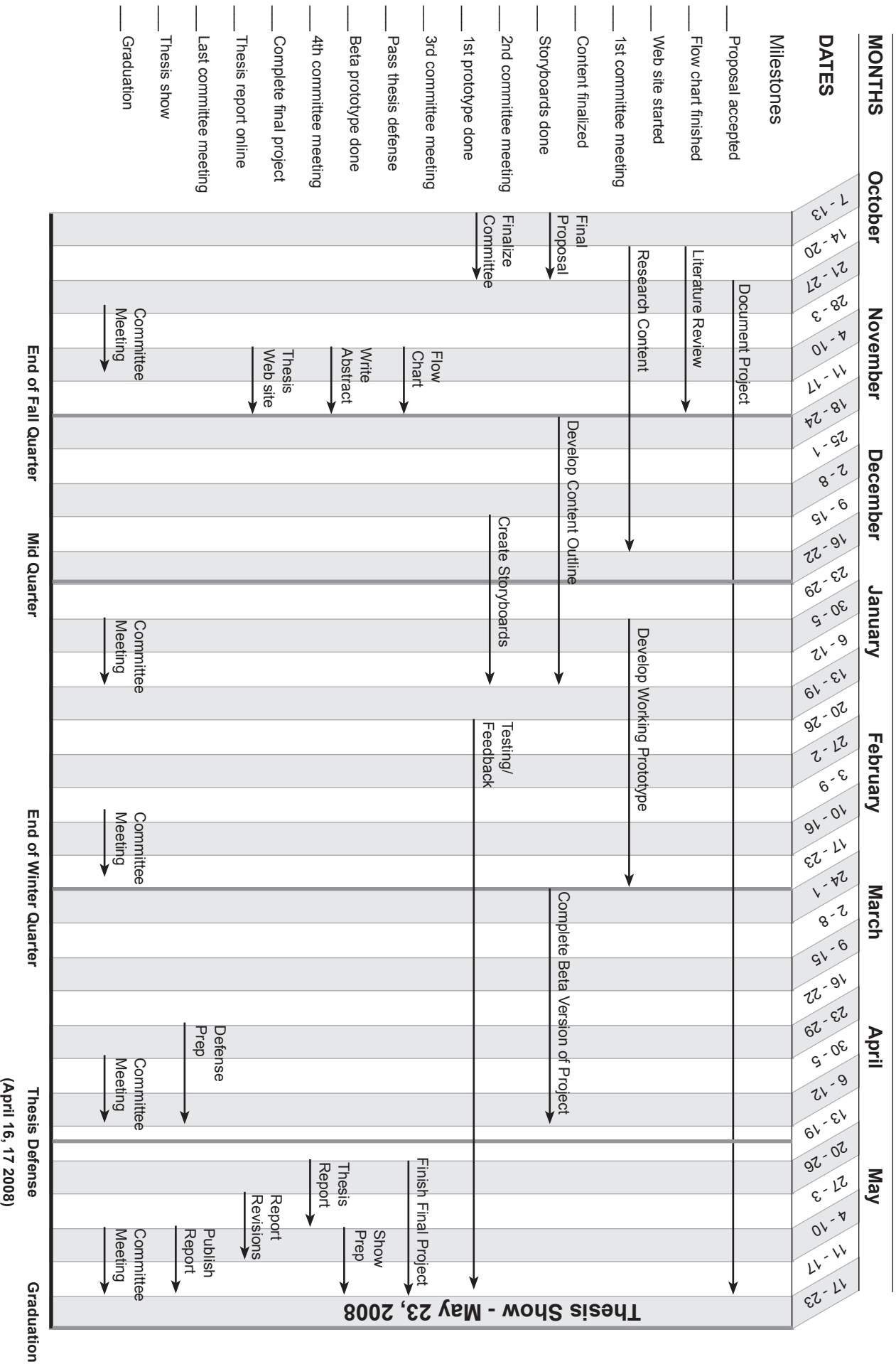
**<http://www.rit.edu/~visualiz/intro.html>**

In this link I've found some great examples of student's work that supports different fields such as science, art and business. As Marla Schweppe mentions, people have been able to visualize a lot of things ever since the powerful computer tools began to apply to the task of visualizing huge data sets and producing simulations of events and processes. Since R.I.T is known for its high standards in digital imaging, students from different majors managed to create great projects by using 2D and 3D computer animation, website design, computer graphics design, education media design, digital illustration, medical visualization and more. The author assumes that by using the visualization web page, students can share their projects with others and encourage them to be familiar with this technology.

# Thesis Timeline

by Ali Alquraini

Thesis Title: Breeding Bettas: An interactive study to the breeding and caring of Siamese fighting fish.



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# Thesis Proposal for the Master of Fine Arts Degree

## BREEDING BETTAS: AN INTERACTIVE STUDY TO THE BREEDING AND CARING OF SIAMESE FIGHTING FISH.

By Ali Alquraini

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### Appendix



**Title:** Breeding Bettas: An interactive study to the breeding and caring of Siamese fighting fish.

**Submitted by:** Ali Alquraini

**Date:** November 7, 2007


#### Thesis Committee Approval:

**Chief Adviser:** Professor Chris Jackson, Computer Graphics Design

  
\_\_\_\_\_  
Signature of Chief Adviser

11/7/07  
\_\_\_\_\_  
Date

**Associate Adviser:** Professor Maria Schweppe, Computer Graphics Design

  
\_\_\_\_\_  
Signature of Associate Adviser

10/24/07  
\_\_\_\_\_  
Date

**Associate Adviser:** Professor Adam Smith, New Media

  
\_\_\_\_\_  
Signature of Associate Adviser

11/7/07  
\_\_\_\_\_  
Date

#### School of Design Chairperson Approval:

  
\_\_\_\_\_  
Signature of Chairperson

1.7.08  
\_\_\_\_\_  
Date

Ali Alquraini