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**CUDDLEFISH**  
**by Rebekah Gamin**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF FINE ARTS  
IMAGING ARTS/COMPUTER ANIMATION  
SCHOOL OF FILM AND ANIMATION  
COLLEGE OF IMAGING ARTS AND SCIENCES  
ROCHESTER INSTITUTE OF TECHNOLOGY  
ROCHESTER, NEW YORK  
May 2013

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**Abstract:**

“Cuddlefish” is an animated graduate thesis film about a young girl who befriends a giant squid. The story contains themes of rejection, hopefulness, and forgiveness. The film’s protagonist, a young girl, ambles alone down a busy boardwalk at dusk. She meets a giant squid who is also in need of companionship, and they become friends. However, it’s difficult to be friends with a squid.

The film was produced primarily in Autodesk Maya with post-production done in Adobe After Effects and Adobe Premiere. The film has a runtime of three and a half minutes. The protagonist and antagonist of the film, along with the environments, were modelled and rendered three dimensionally in Maya. The secondary characters of passersby and a cat were drawn two dimensionally and rigged in Maya in a “paper cutout” style. Opening and closing titles were added in Adobe After Effects. Also, an underwater overlay effect was done in Adobe After Effects. Music and sound FX were added in Adobe Premiere.

The production of “Cuddlefish” stretched out over 5 years, with the majority of that time being spent in pre-production developing the characters and their story in an attempt to achieve emotional depth while still maintaining brevity. This paper will be a record of the process of making “Cuddlefish” and the lessons learned along the way.

**Acknowledgements:**

I would first like to thank my partner, Joseph Arcovitch, for his unwavering support and encouragement along this five year journey. In addition to being a sounding board for story and production process ideas, he also did the final modelling of my sets, modelled a wardrobe for the girl character, and set up the lighting and rendering for the film. His assistance was invaluable.

I'd also like to thank my advisor, Tom Gasek, for his patience and persistence in encouraging me to finish my film. I didn't realize when I asked him to be my thesis advisor, I'd be asking him to commit to five years worth of emails, but he stuck with it. He gave me advice while still respecting my right to follow my own path in production.

I'd like to thank my friend Ignacio Barrios for taking my girl character and re-modelling her and adding a feature-film-quality rig to her. I struggled for a very long time in making her appealing and he has a talent for adding charm to characters that renewed my zeal for my own film.

Thanks to my committee members, Mark Reisch and Charles Bandla for staying on board and dropping in with important secondary feedback.

Also, thanks of course to my family, who are always in my corner, especially along a five-year production of a short film.

## **Introduction:**

When I began production on "Cuddlefish" back in the final quarter of my second

year, I was preoccupied with the idea of loneliness and seeking companionship. I felt fascinated by the idea of getting rejected and being able to recover and put yourself out there again. This led me to writing a short story about 3 young orphaned sisters on an island. When two of the sisters were eaten by a maniacal giant squid, the third girl attacked it, sacrificing herself until she's rescued by a giant golden koi who brings her back to life. Since this was generally un-produceable, that story got trimmed and altered until it resembled my official pitch about a girl on a pier, befriending a squid. From there, I was off to the races on pre-production.

### **Preproduction:**

After completing my coursework at RIT, I moved out to San Francisco in order to set myself up for industry-related employment, and began pre-production.

I sought out art direction inspiration from multiple sources. One of my primary

inspirations was the Yuriy Norshteyn film “Hedgehog in the Fog.” I saw this for the first time in my History of Animation course at RIT and it stuck with me. The soft color palette, rich textures, and of course, the fog itself, were mesmerizing. Normally I would avoid finding inspiration in the same medium, but I felt I would be able to differentiate my film sufficiently in medium and storytelling that it would feel entirely new.



fig 1 - images from Yuriy Norshteyn’s “Hedgehog in the Fog”

I was also inspired by the illustrator Irma Gruenholz. She does diorama-style illustrations using plasticine clay and shallow depth. I wanted to incorporate this depth and clay texture into my film to give it a sense of tangibility, which I find so appealing.



fig 2 - Illustrations by Irma Gruenholz

Other inspirations for art direction included the Santa Monica Pier for its' iconic circus-on-a-pier silhouette. Also, the San Francisco Bay area furthered my love of fog. The evening "blue soup" fog I drive home across the Golden Gate bridge in is both isolating and beautiful. Another inspiration was "tilt shift" videos taken of Walt Disney World. "Tilt shift" is a technique of selective focusing that makes the subject look like a miniature. It was my hope that this would add to the tangibility of the film.



fig 3 - Santa Monica Pier

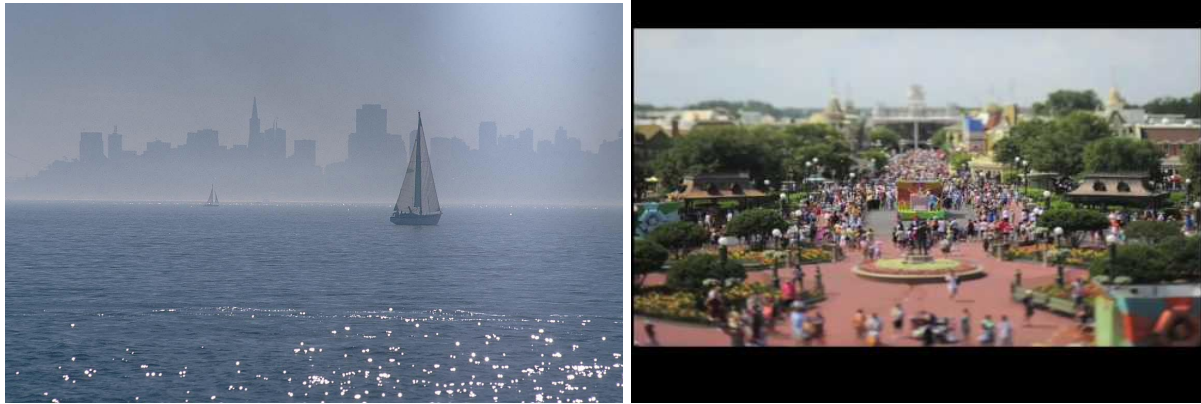


fig 4 - San Francisco fog, Walt Disney World photographed in “tilt-shift”

Much later on I was also inspired by the television show “Jelly Jamm” which has that plasticine look I was going for and an extreme style of animation that is very appealing. It is limited while still being expressive. I studied this animation technique in order to improve the readability of my animation



fig 5 - promotional image from the television show “Jelly Jamm”

As far as character design goes, my original designs didn’t stray terribly far from

the final versions. The original designs for the squid were, obviously, based on squid anatomy. I began by creating a maquette of my characters.



fig 6 - clay maquette

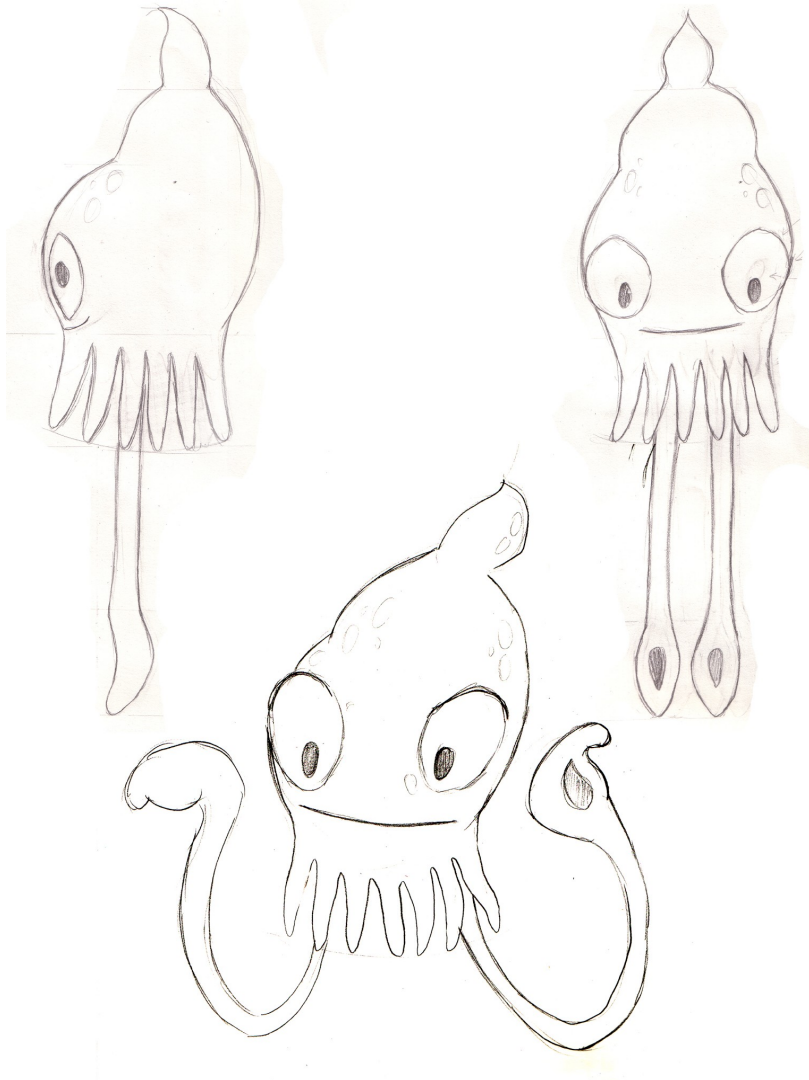


fig 7 - early squid character design sketches

I ran into a major problem in getting the squid's face to be expressive enough to carry his role in the film. After a trip to the Monterey Bay Aquarium and seeing the cuttlefish exhibit, I was inspired to redesign my character slightly after the anatomy of the cuttlefish. The cuttlefish has large eyes on the front of his mantle with what look like brow ridges (eyelids), and two primary arms with secondary tentacles hanging off either side of the mantle in a very expressive way. The cuttlefish naturally has a cute face. I

altered my model to reflect the cuttlefish and I also came up with the idea for the final title of the film at this point.



fig 8 - cuttlefish

I rigged the squid using the plugin for Maya called The Setup Machine which allowed me to add an unlimited amount of tentacles. I had difficulty rigging the squid's face so I stuck with something simple and skinned the brows to joints which I controlled by their rotation. I rigged the eyes using a texture and animating the UV's. I rigged the lids by creating multiple models of the lids in different positions and then swapping visibility on them.



fig 9 - final character design for the squid

The design of the girl was much more taxing. I modelled my original sketches but struggled with her face a great deal. Also, while her character was written to be very young (7 or 8) the model ended up looking much older (like 12 or 13). I worked with this model for a long time before cutting my losses and resigning to rigging her in order to keep the film moving forward.



fig 10 - early girl character design sketches



fig 11 - first pass girl model

After running into problems rigging her face, I appealed to my friend Ignacio Barrios for help as he is a professional technical director. He offered to remodel the girl because she needed better edgeloops to make the rig work, and he had an idea of how to soften her model in order to make her look much younger. I was over the moon when he sent me his sketches of the redesign and I'm just as pleased with the final version of her.

I sketched up a wardrobe for the girl and Joe modelled them for me and I skinned them to my final rig. I also rigged her eyes to match the squids using a texture and animating the UV's. While this extra effort did push my schedule back drastically, I

think it was ultimately worth it to get a much more appealing character.



fig 12 - final girl model

I also required some tertiary characters to fill out the story. I did some early tests of animating these character two-dimensionally in Flash. While I was happy with how these turned out, they were relatively time consuming. After assisting Joe Arcovitch on his thesis film “Mystery Spot”, I fell in love with his hand drawn characters that he turned into puppets in Maya, as if they were paper cutouts. I asked him to create a generic black-silhouetted figure of a man and a woman and a cat which took him very little time, and I was thrilled with the quick results in the final film . You get the sense that the girl is surrounded by other living beings but they are separate from her and they don’t see her the way the audience does.

I did rough set design for the entire film as one complete set that I could shoot around. I did this so that I could reference this one complete set file into all of my animation files. I added the Maya oceans plugin to this set and with minor color and scale tweaks, it looked quite good. I decided to create the underwater shots using After Effects so I followed a tutorial to create the light rays and bubbles effects and was able to overlay this on my underwater shots to good effect.

My storyboard and animatic probably took the majority of my pre-production time. I worked and reworked the story many times to try to get the story powerfully across with the least amount of superfluous detail possible. During this time, I pondered over separating my characters as a protagonist and antagonist and clarifying their motivations. My advisor and I went back and forth on this topic at length. I discovered that while the squid is a more interesting character, in order to achieve what I wanted to with the story, I had to spend more time with the girl in order to convey a convincing story arc. This forced me to stretch out the introduction section of the film to set up the two characters meeting. I also simplified the squids character into basically a puppy so it wouldn't overcomplicate things in such a short film. I was pleased with how this allowed me to spend more time on the emotional beats and sell them.

While working on my animatic, I enrolled in supplementary online animation courses to increase my abilities specifically in character animation. I knew after my one-quarter and two-quarter films that I had a long way to go to be able to produce emotionally believable character performances in my animation.

From that, I landed employment in a quickly growing video game company that emphasizes storytelling and cinematics. After an intense year of focusing on cinematography, I went back to my film in earnest with the skills of achieving story with

brevity of animation using cinematic methods such as a greater variety of shot types and well-placed close ups. This was a boon from the standpoint of being able to complete my animation in a timely manner without having to cut shots. Now I felt truly prepared to start animating my film.

## **Production:**

I began laying out my film in Maya after receiving the 1st pass on the re-mastered girl model. I was able to use the incredibly useful Maya plugin called Blue Pencil in order to sketch facial expressions and additional elements onto the scenes in 3D space in order to visualize my film as a whole while other pieces were still yet to be done. This is where a command of iterative animation passes really saved my film. I laid out the entire film front to back and was able to view it and adjust pacing accordingly. I

found myself adding a lot of time to the film to let the shots breathe.

A big question that came up during this process was whether or not to show the squid in the opening shot of the film. I wanted to show him in the opening shot to start the film off with a lot of intrigue. However, once I got that shot laid out, it felt confusing and misleading. At my advisor's suggestion I tried different things with that opening shot and landed on the final version of the squid mysteriously and melancholically passing through the water before crossfading to the night sky and panning down over the pier.

I continued doing the animation in iterative steps to move the film forward consistently while waiting on things like the girl rig to be finished. I knew I was asking a huge favor in having a friend put together an entire re-model and re-rig of the girl so late in the production process and I accounted for that by planning out iterations of the animation, which I could do without needing the final version of the girl. I started out with basic animation of the girl's body. Then I animated all the secondary shadow characters, then I animated the squid's main body. Following that was multiple iterative passes as pieces of the face rigs fell into place. I can't emphasize enough how this helped me to stay on schedule. While I did end up pushing back my dates slightly, I was still able to complete the overall animation on time.

At the same time as my animation passes, Joe was helping me out with the art of the film. He finalized the models of my sets based on the rough models that I had done and textured them. He added lights to the set and a fog effect. Ambient occlusion was set up to add to the tangibility I wanted. Also, a Z-depth render layer was created to simulate that tilt-shift focus I was seeking.

## **Postproduction:**

In every project I've worked on, post-production has become the compression point in the schedule and this film was no different. The delays in finalizing my girl character rolled downhill to having just a few weeks for post-production. As soon as I was finalizing shot I was setting them up to render on a separate machine.

For the rendering process, I again had the help of Joe in setting up render layers to add depth, ambient occlusion, and glowing lights. This extended the amount of time it took to render a shot, which forced me to not render in high definition, but I felt the sacrifice was worth it for the mood it created.

I kept the titles and credits very simple using the text tools in After Effects. I used a blur effect on the opening title of the film to make it feel as if it was under water and the squid were "wiping" it away. I also wanted to use the closing credits as an epilogue to the film. This was one of the few ideas that came early on in preproduction

and stuck through to the end of the film. I thought it was necessary to see them enjoying their time together without harming each other and co-opt that lengthy shot for my credits.

For sound design I used a lot of Creative Commons assets. Early on, I asked a friend who was also a musician to create a soundtrack for the film. Unfortunately, the track I got back lacked the emotional variability to support the film. I learned a lot from this and felt that I just couldn't afford the quality of music I wanted for a custom score. Instead, I turned to the Creative Commons licensed works of Kevin MacLeod. His work runs the risk of being overused in animated student films because he has a library of good, free songs that he allows people to use, but I sought out some lesser known tracks. I asked the advice of a friend who does sound mixing in his spare time on how to mix separate tracks together in order to get the emotional variability I required but I just wasn't finding from a single song.

### **Critique Reception:**

Reception of my film was mostly positive. My committee pointed out render errors that I experienced that I would like to go back and fix given more time. For example, the fact that you can see the squid below the water was something I didn't realize until I had run out of time to re-render. The other criticism I received from my committee which I felt was a valid concern was how quickly the film concluded. I think it would have been nice to add another funny shot when the girl had returned to the squid with her boat and life preserver.

Screenings were interesting and unexpected. The squid received quite a few laughs and "aww"s from the audience. A few students commented that they enjoyed the film. Skip, as my respondent, praised the film for its storyline and themes of loneliness and independence. He felt the art direction set the mood very well but some of the silhouettes, such as the peanut, got washed out. I thought this was fair and if I had it to do again, I think I would have changed the poses as the girl holds the peanuts.

At this point that the screening took an unexpected turn where I received a great deal of criticism for the length of time it took me to complete my film. I was asked what I was up to in my career that had kept me from completing my film earlier. I

emphasized how my career had informed my film, and the unexpected side benefits of taking the full 5 years. However, the senior faculty still felt that I had taken too long.

Overall I was pleased with the positive reception of my film and was disappointed that the discussion of my film was sidelined in favor of discussing program politics.

### **Conclusions:**

The great irony of this long and arduous film production process is that, even though I desired to create a top-quality final product that measured up with the best that I was seeing of 3D animated shorts, I realized the ultimate purpose of the thesis is in learning as much as possible. While I'm very proud of the final product, I can see how much further I'd have to go to reach that extremely high bar I had set for myself. I think most students want their final school film to be as great as major studio work and I was no different.

An important lesson I learned was in regards to projects going stale. Technically I don't think an animated short should take 5 years but I ran into the age-old problem of my ambitions being far beyond my skills and instead of settling for my skills at the time, I tried to improve them. It was extremely important towards the last leg of production to find aspects of my film to feel re-inspired by. The redesign of my girl character was one of those things. Like all creative projects, though, eventually I just had to ship it, which was for the best.

Another valuable skill that I learned from this, and it was entirely because I waited so long to finish my film, is how to balance work and a creative side project. While I ran into a stretch of luck that work wasn't too hectic during the busiest animation months on my film, I did have to force myself to get in the hours on my film, even after a

full day of work. I hope to keep this up in the future because it is so important to have creative side projects even if you have a creative job. It felt refreshing to get home and be my own director. While I did need to be wary of burnout, it felt great to feel productive in my free time.

The most important lesson I learned from my film was in working with others. It is absolutely impossible to achieve excellence in every single aspect of an animated film in the short time we are given to complete them. My focus on animation was ultimately a very good choice for me, and I'm very proud of how much better I've gotten at animation since I started classes at RIT so many years ago. I earnestly tried my hand at all other aspects of the film but where I fell tragically short, I was extremely lucky to be close to people who could help me, and were so graciously willing. The single most important thing I got from my education at RIT was the people that I met, and having the tremendous assistance of Joe Arcovitch and Ignacio Barrios in making my film what I wanted to be, I'm overwhelmed and humbled.

## Appendix A:

### Original Story Pitch

#### **“Tarpaulins”**

It's dusk and the boardwalk circus has ended its' show for the evening. A young girl walks out of a broken down little tent shaded by the circus' animal caravans. She looks untidy and while she is a member of the circus, she's more a servant than the star. Above her head the ringmaster can be heard yelling at the animals and a whip is cracking. Frieda looks away sadly and spots a wadded up paper bag on the ground left over from the crowd. Inside are some peanuts. For her, this is dinner, so she shoves some in her mouth. She goes off down the boardwalk hopping from post to post along the edge of the pier casually tossing peanuts into her mouth and humming a little hum. When a couple passes by she jumps down and gives them a curtsy. They toss her a coin out of pity, which she grateful snatches up and shoves in her pocket. Frieda continues out to the end of the pier and turns a pirouette then jumps down off the posts and sits with her legs dangling off the end of the pier. She stares out at the horizon and carelessly munches peanuts, dropping a couple in the water underneath her. She is humming to herself when she hears a bubbly humming response from under the water. In shock, she drops the peanut bag beside her and begins to run back down the pier. The pier begins to shake and she falls and looks backwards to see a big squiddy paw appear over the edge of the wood and snatch the rest of the peanuts. Munching and bubbly humming can be heard. Frieda crawls back over to the edge and peaks down into the

water. The giant squid, Gaspar, is happily eating but when he sees her he gets scared, squeaks, and sinks back quickly. Frieda tosses a peace offering peanut over the edge. Gaspar emerges hesitantly and eats that peanut too. Their eyes meet and she offers him another peanut that he snatches with one of his big squiddy hands and munches happily. She pets his massive paw gently.

Frieda visits Gaspar again and they play as Frieda does acrobatics and Gaspar tosses her around with his fins and let's her ride on his back like a circus pony. The ringmaster appears and yells at Frieda to come back and do her chores but Gaspar reaches up and grabs a hold of her. He picks her up and hugs her, but she looks unsure, as she knows she must go in. The ringmaster spots the action from offshore and gets the wrong idea. He starts yelling for help. Shortly thereafter, an angry mob of circus folk runs down the pier. Gaspar protectively carries her out to sea. He pulls her unthinking under the water and wants to continue to play but it's immediately obvious that Frieda isn't doing so well. She's turning blue and drowning. Gaspar clings to her, he doesn't want to give her up but he glances up at the waters surface and understands that Frieda can't survive underwater. He cradles her above the water and takes her back to the pier. The posse of circus folks is yelling and throwing things at him as he sets her gently on the wood. Some are tossing ropes trying to tie him up. Frieda chokes a bit but is breathing. Gaspar watches her as he sinks away backwards into the darkness out of the reach of their ropes. The circus people didn't even care about Frieda's well being as much as tormenting the giant squid.

Gaspar waits for her return at the end of the pier. He waits day and night for her but there is no sign. She is ill and is a little scared of Gaspar, too. Gaspar finally gives up and floats back out to sea. After a while of loneliness, floating listlessly, he spots a boat

floating above him in the water. As he's watching it, a small object appears overboard and floats down towards Gaspar; it's a peanut. Gaspar cautiously approaches it and realizes its Frieda! He surfaces sheepishly and Frieda gives her a friendly pat. She's forgiven him. He grabs a hold of the boat and pulls it behind himself quickly, like a motor boat. He can't hold her, and he's not her pet, but they can be friends at least.

### **Visual Treatment & Production Process**

This animated short will be a hybrid of 2D and 3D. It will have a hand-made look by incorporating textures made by real watercolor art applied to flat 3D objects in Maya. It's in this manner I hope to mimic classic theatre set design. My main inspiration for the artistic look of this film is from old circus and freak show posters of the 30's and 40's. (See examples on last page). Their bold color palette and strong line work will be incorporated throughout.

Other inspiration comes from films such as *Science of Sleep* and the classic work of Georges Méliès. There's a certain charm that comes only from when the seems are visible, or you know how the magic trick works, and I believe that same charm can apply to 3D animation when you work to overcome the computer generated look that Maya produces by default and let the human, hand-touched portion of the film shine through. I intend to push the 3D medium to achieve that fine, crafted effect.

Also influenced by the “steam punk” or Victorian meets clockwork-style technology artistic style.

**Estimated length:**

2.5 minutes

## Budget

### Services

Direction	in kind
Storyboarding	in kind
Character Design	in kind
3D Animation	in kind
Modeling/Textures	in kind
Rigging	in kind
Lighting	in kind
Rendering	in kind
Compositing	in kind
2D Animation	in kind
Sound Design	in trade for services rendered

### Products

AutoDesk Maya Complete	RIT facilities
Adobe Creative Suite 3	RIT facilities
Computer hardware upgrades	\$1200.00
External hard drive storage (500gb)	\$120.00
Render Farm usage	RIT facilities
Recordable Disc media	\$40.00
Instructional books	\$200.00
Art/drawing supplies	\$200.00
Sound effects (www.soundrangers.com)	\$220.00
DVD tutorials	\$180.00

### Marketing

Festival entry fees	\$200.00
Total out-of-pocket	\$2360.00

## Appendix B:

Images from the final film







