Abstract Section

Wildfires make people panic. Wildfires frighten nations. Australia is engulfed in flames, and roughly 5 million people left California. This will only get worse. Let's fix it before it does.

Even the smallest things can set fires. One cigarette thrown in a forest can burn down nearly an entire state. A firework can set your house on fire.

The wildfighter introduces technology that calls the fire department, as soon as it senses heat. It senses every form of heat, so it won't take any chances.

Hopefully nations worldwide can live without fear of fires.

Present Technology

150,000 people left California in just one year, because of wildfires! Wildfires have destroyed parts of California. People are trying to stop wildfires by shutting off power in California because winds have picked up and humidity has dropped. What that means is that trees can blow over. They are scared that if a tree falls on a powerline it will start yet another wildfire. One way they used to stop wildfires was dropping huge buckets of water over the fire, this was called, Big Buckets'. It can put out a large portion of the wildfire, but it's difficult because you have to go to a nearby (which could be a mile away) river, fill your bucket, and go back to the fire. In the meantime, half the forest is gone. Another way to stop fires is to use a pulaski. It is a mix of an axe and hoe to dig a fireline. A fireline is a strip of land that has been cleared of brush and debris and other flammable items to rob a wildfire of its fuel.

Some technology is very advanced and works very well, while some can be very dangerous. There are multiple ways to protect people like Aerial firefighting and Frontline Wildfire Defense. Here is how they work. Fire planes or Aerial firefighting is a type of aircraft and other aerial resources to fight wildfires. They are very dangerous. They killed 73 firefighters in the last decade! Another kind of fire safety is Frontline Wildfire Defense. Embers flying around the fire account for 90% of homes burned. The Frontline Wildfire Defense System quickly coats your home and surrounding landscape creating a water-foam blanket that prevents embers from catching fire. The system is installed on roof ridges and under covered areas. Aerial firefighting is great but expensive and the Frontline Wildfire Defense is very helpful but not very popular.

Everything they do takes way too long. It makes people panic and leave. Let's fix it before it does.

History

The first way of fire fighting was men and women (and children) lined up until they reached the closest river. Then they get buckets and pass them hand to hand, bucket to bucket. They also had long hooks to pull down burning objects for fire breaks (so the other houses wouldn't catch on fire). This was the best way to put out fires. If you didn't do that then you would have to watch your town burn. The first ever fire brigade was created by Marcus Licinius Crassus. He said "If you don't give me your buildings, you will watch them burn."

Back then they thought it was good for nature because it clears dead trees for new ones, but if it occurs too often then it would be harmful to nature. When people started realizing this, they started a 'Voluntary Fire Department. It would only help with people's belongings that are on fire. Later, it got changed to The Fire Department, where people could be employed and fight fires for a living.

Fire fighters commonly work with housefires, and can handle those fairly well. When wildfires became more and more common, more things started to perish including firefighters. They tried to solve that problem, creating Firelines. They dug holes around the area of the fire to rid the fire of its fuel. It worked slowly but still burned a lot of living things.

The Roman Empire in 24 B.C had an alarm system every time there was a fire. They used an ax to remove fuel so the fire wouldn't feed.

The 19th century fires were very small and rarely posed as a life threat. They were usually fought with a fire hydrant. The Big Burn was one of the largest wildfires. It occured in 1910. A fire that wasn't put out was the usual cause of wildfires. Weather was also a common factor of a wildfire.

Future Technology – Slide 1

Wildfires are getting worse. California's population is shrinking. Animals in Australia are dying. In southern places it is crazy dry. They are trying to stop it, but climate change and the heat is going to make it harder to the point where they are going to need thousands more firefighters. That is not likely to happen. Therefore, I introduce you to the Wildfighter.

The Wildfighter is a water system that works fast, and can help firefighters with their work. It senses heat and smoke, and will shoot water at the fire while it calls the firefighters. It is underground, and not detectable. It will shoot water at the fire and won't stop until the fire is gone. It is made of Tantalum Carbide, a inflammable material.

The sprinkler system is installed in the ground around the house and on the roof. There is a box on the roof that sprays and burns out the flying embers. It has a sensor to sense heat. In the ground there is a box that moistens the ground so fires won't have fuel. It will go around the house so if the fire is in the house, it won't spread outward and the other way around.

There is also an app that you can download that will control the wildfighter, so if you are having a barbecue, it won't set off. It will also tell you where the fire is in your house and give you a safe escape route to get out of the house. You can also control it on your phone whether you want it to be auto(it starts when it senses fires) or not.

In the ground there will be a tube that will go around the house and it will be made of tantalum carbide and is coated with silicone carbide on the inside. There will be tiny holes that open when it senses heat or when you tell it to.

Future Technology – Slide 2 (optional)

N/A

Insert image here
(optional)
no videos or gifs

Future Technology – Slide 3 (optional)

N/A

Insert image here (optional) no videos or gifs

Breakthroughs – Slide 1

We will start by testing if it will work by testing to see if the fire spreads in a controlled testing area. Then we keep testing and making the fire bigger and bigger until we know the Wildfighter can put out wildfires.

This product is unique because it’s like lawn sprinkler but more powerful. This isn’t a lawn sprinkler. It is a heat sensing, heat resistant and takes the fuel form the fire, but it is not used to water your garden. It is a wildfighter.

Breakthroughs – Slide 2 (optional)

It will be a bit of a struggle to create this thing. To make a heat-resisting, heat-sensing, powerful sprinkler, it will take a lot of different expensive materials, and a lot of electricity.

It’s going to take a lot of people and hard workers, and pipes. We are going to make a sprinkler system that you put on top of the house and in the ground that is so strong it can put out any sized fire. We are going to make the water pipes bigger so more water will be able to come through.

This technology doesn’t exist today because there aren’t people who are actually getting their hands dirty to prevent wildfires. In the long run there aren’t people coming up with ideas often enough to stop or prevent wildfires.

Breakthroughs – Slide 3 (optional)

N/A

Insert image here (optional) no videos or gifs

Design Process – Slide 1

We wanted a modern solution but it consisted of some problems:

1. False alarms
2. People might turn it off with the phone and they can’t get their phone in the fire
3. Fire hydrants literally everywhere

They were rejected. The chemical that made it rain was rejected because it isn’t always cloudy, especially near wildfire circumstances.

An expansive box stuck around for a bit, and was part of the evolution of our current idea, but the box is too big and would be too hard to install.

Fire Hydrants everywhere were the quickest to get shot down, and for the most obvious reason. It is ridiculous to put fire hydrants in forests, in your yard,or on your roof. Do you know how to use a fire hydrant that is on your roof?

When we rested on our final project there things made it clear it would work better than any of the others.

- It can reach places easily and senses heat
- It can work anytime
- It can be used manually and automatically

Design Process – Slide 2 (optional)

N/A

Design Process – Slide 3 (optional)

- **N/A**

Consequences

Fires can come in all shapes and sizes. From cigarettes to weather, the wildfighter is here to protect.

People can come up with negatives easily, we can change those negatives into positives. Here are some examples:

Q: What if they're doing a barbecue? Will the wildfighter drench us?

A: The barbecue actually starts a fire? It's better to be safe than sorry and there is an app, of which you can tell the wildfighter not to go off if it senses heat for the time being. You can also set a timer to say that in a specific period of time, to turn the auto system back on.

Q:"What if the house floods?

A: The WildFighter doesn't shoot out enough water to flood the house, but enough to put out the fire.

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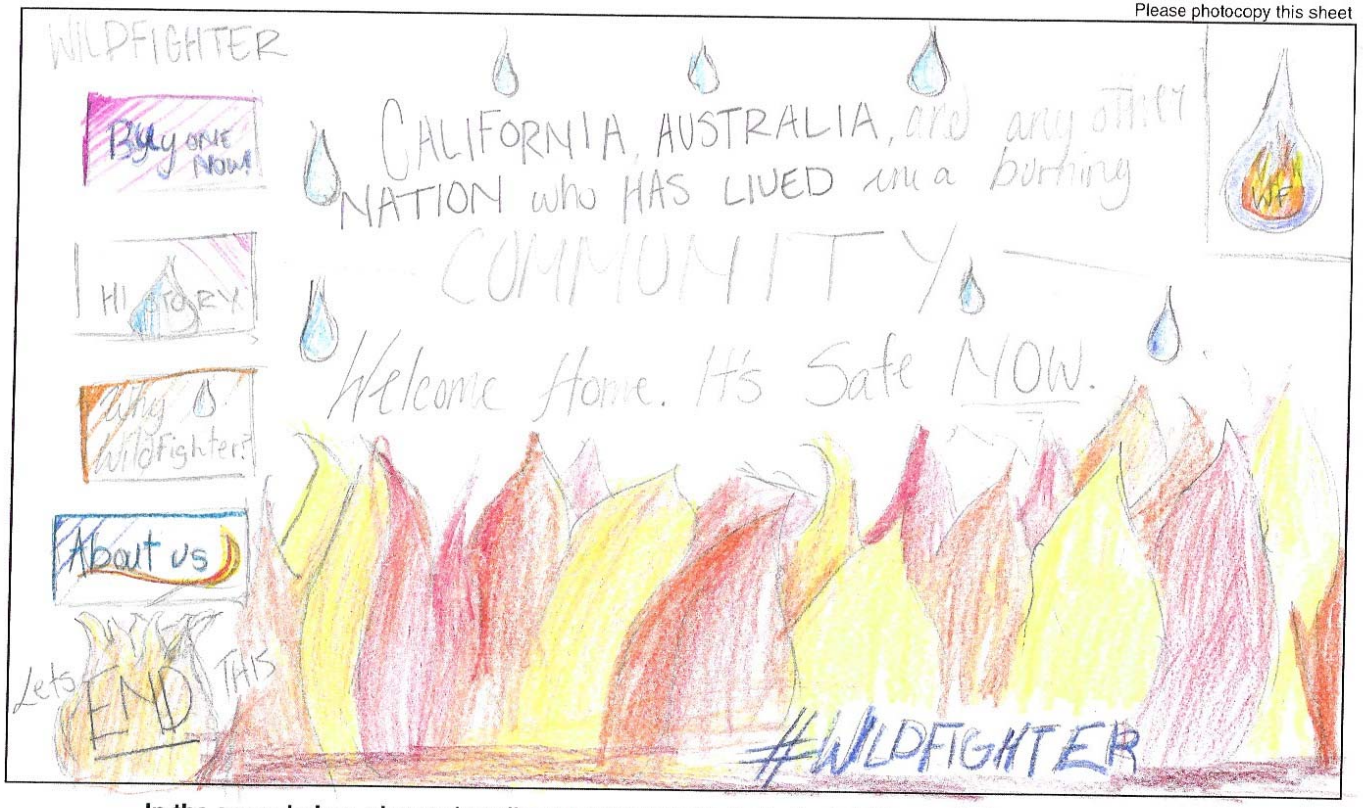

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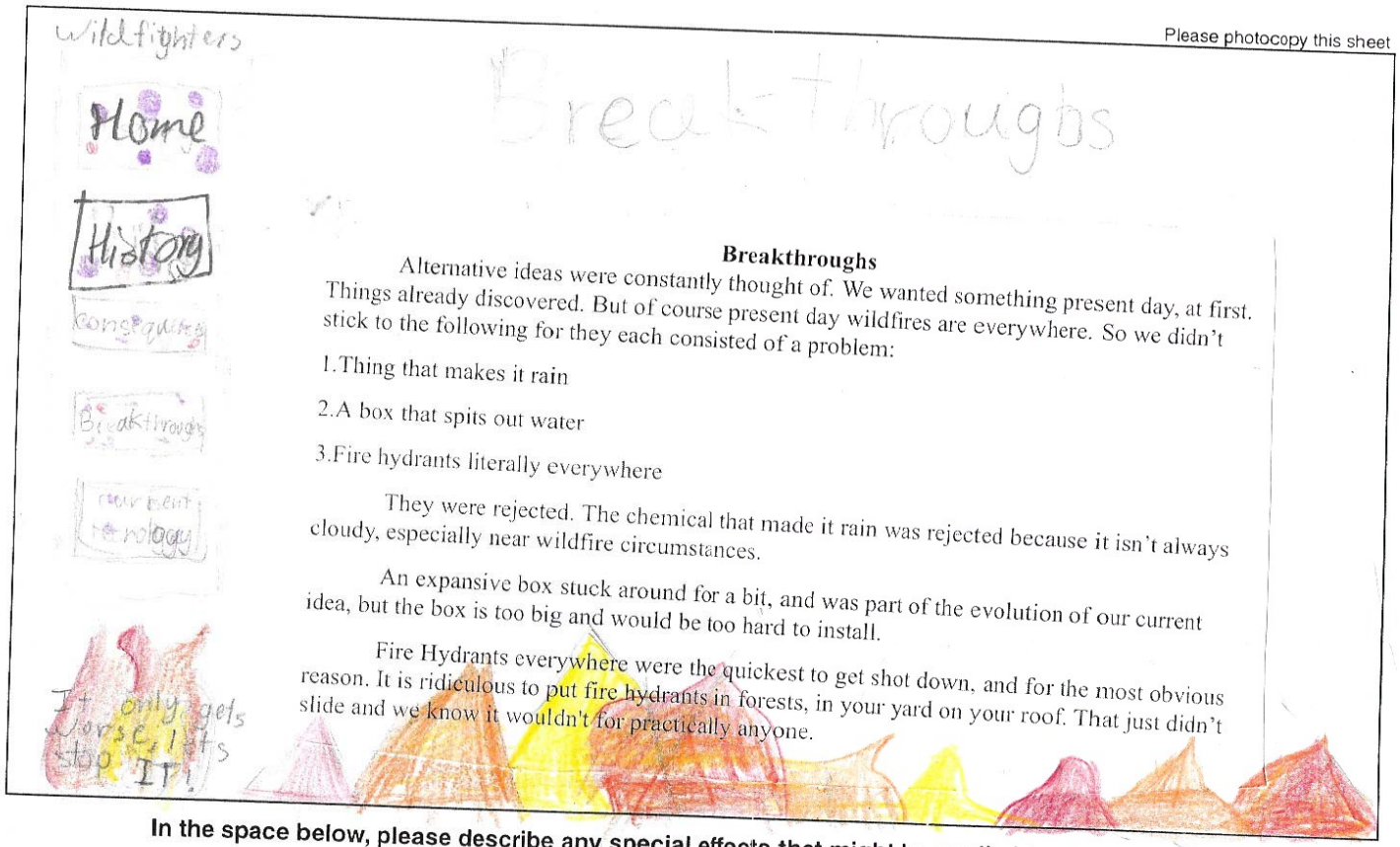

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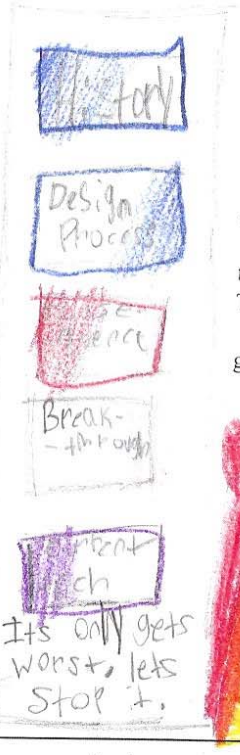
History



The first way of fire fighting was men and women (and children) line up tell they reach the river. Then they get buckets and pass them hand to hand, bucket to bucket.

They also had long hooks to pull down burning objects for fire breaks(so the other houses wouldn't catch)

Now for this time this was the best way to put out fires. If you didn't do that than you would have to watch your town burn but I mean that's kinda tragic. The first ever fire brigade was created by Marcus Licinius Crassus.

However Marcus Licinius Crassus and his men said that he would have to give up the property they would put out the fire, but if not they would let it burn.

When wildfires are over it could be good for nature, but when they keep going? It could be very bad.

When people started realizing this, they started a 'Voluntary Fire Department, who would help people with things on fire. It spread to house fires, wildfires, and much more. Then, it got changed to The fire department, where people could be employed and fight fires for a living.

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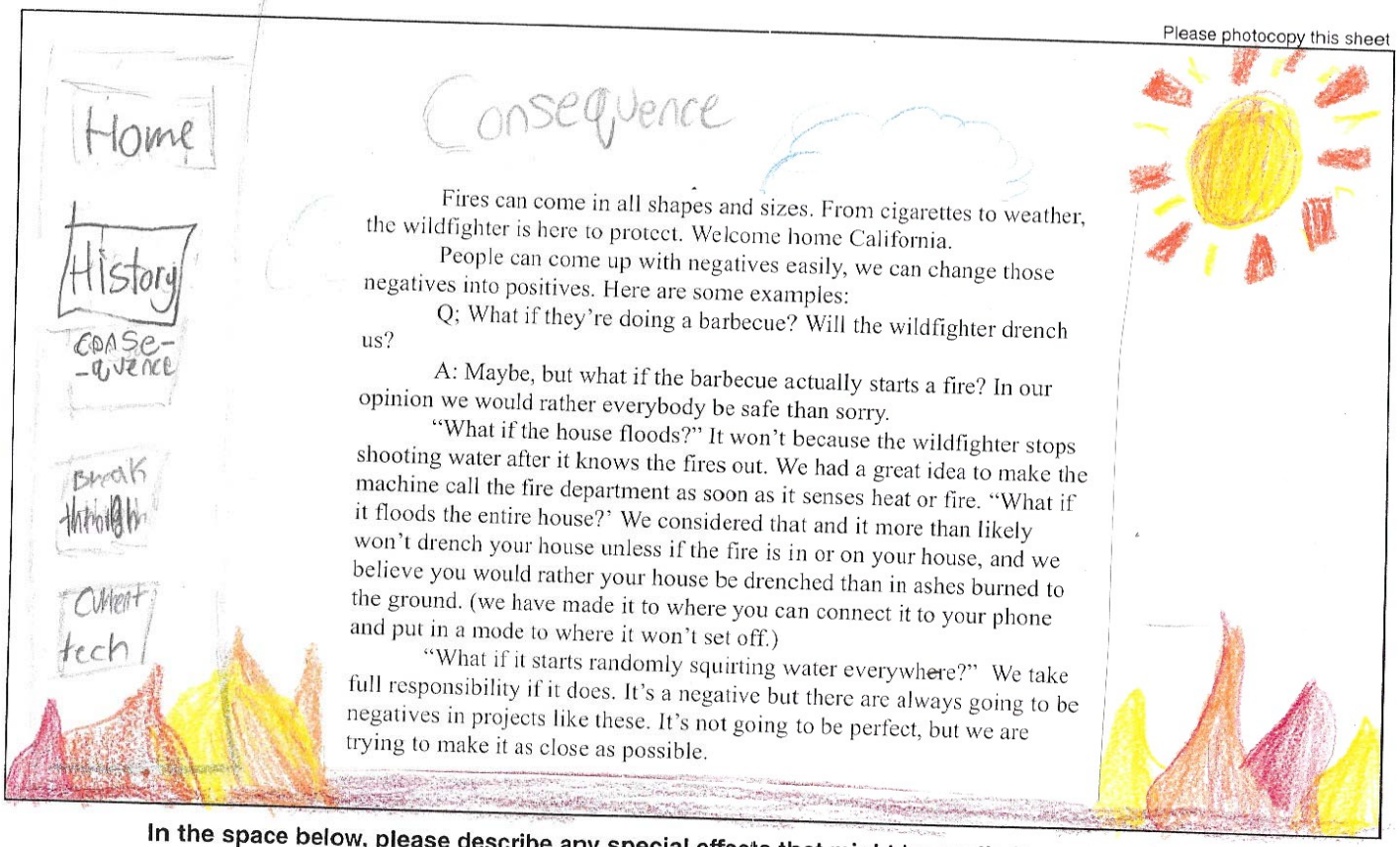
Sample Web Page # 4 of 5 (must include 5 forms)

Project page 19



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5654791 Wildfighters

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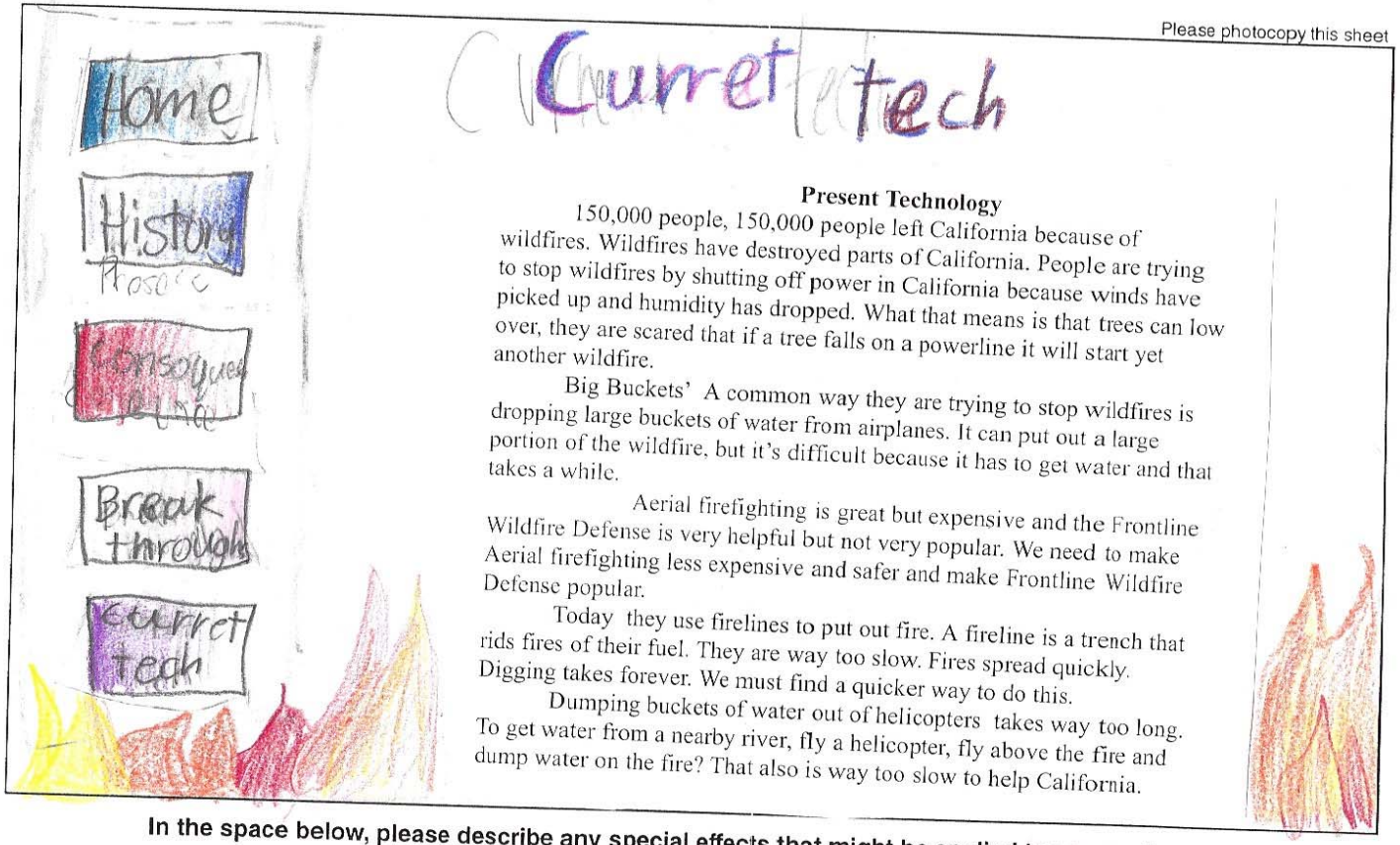

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Project page 21