# Flex Specs

### Abstract:

Do you not want to settle for an "okay" frame or deal with long visits to the eye doctor? Well, our self-prescribing glasses are just right for you. Their frames can be "programmed" to take on certain shapes and you won't have to go anywhere for prescription correction! The glasses also include add-ons ranging from night vision to virtual reality tech. The VR specifically includes many useful parts. In the future, the VR can be used to allow for working online or relaxing while you sleep since the virtual reality itself will be in a dream, meaning you will be able to sleep while doing things through the VR! The eye scanner will also be able to pick up signs of diseases as soon as they develop! Glasses have evolved in shape and prescription power over the years. We intend to make this product a major part of this history.

# Flex Specs

## Present Technology

Currently in 2018, there are many pieces of technology that can be used in the Flex Specs. Virtual Reality and Oculus Rift technology are both already out, so there is a more firm grasp on virtual reality than there once was. The ability to connect through dreams, however, is lacking. Nerve splicing allows for accessing the nerves of the brain but, this takes an actual operation, and a dangerous one at that. So as of yet, a cheap, easy, everyday alternative to use for V.R. dreaming has not been made. As for the glasses part themselves, the magnetic material, Ferrofluid, is already readily available. It is somewhat expensive, however, so production of this material should become cheaper in the future if mass production of the glasses is to be possible.

As for the material around the glasses that would protect the brain from the magnetic waves, there is no material that is durable enough and moldable enough that it will fit to any shape, no matter how small or large. Most other similar materials of our time would get stretched out and wear. So, temporarily, these other materials could be settled for, but replacements of said material would likely be common.

### History

Before glasses, people either accepted that they had poor eyesight, or they improvised. The first improvised eyeglasses were made of flattened walrus ivory and were used to shield eyes against the sun. Then, in ancient Rome, the emperor - Nero - put an emerald in front of his eyes in order to see gladiators more clearly. This was the first corrective "lense." In the 1600's, glasses for nearsightedness, rather than just for

farsightedness, were created. The Spanish then created the arms of the glasses - a ribbon that was tied around the ear. This was then improved to be a rod by Edward Scarlett in the 1730s. In 1752, hinges were added in order to fold glasses for compact storage. Not long after, bifocals were created. Nowadays, almost all glasses are made of plastic rather than glass, so they don't shatter. Glasses, like most things, were not created "perfectly" all at once, but were continuously being improved upon and recreated. This improvement process, as with any invention, is never done. Self prescribing glasses could be the next big innovation to glasses and could lead to many more innovations, much like how each innovation was built on top of one other, rather than being created perfectly.

Twenty years ago, V.R. was a dream of the future. Now we can find it without looking all that hard. The first and most primitive version of V.R. is from the nineteenth century - a panoramic painting. In 1838, stereoscopic images were made. These were two identical pictures placed side by side so that people could perceive depth in a two dimensional picture. Not long after the stereoscopic images, in 1929, the first flight simulator was built. After all of the preliminary discoveries with V.R., the first true V.R. example appeared - the Morton Heilig's Sensorama. This not only stimulated audio and visual senses, but also smell. This design was made more portable by Sega and Nintendo, although both of their V.R. headsets either did not make it to the market, or flopped on it. So far, science has just scratched the surface of V.R.. Virtual reality, undoubtedly, will be made better and more intricate in the future - a future we hope to create.

# **Future Technology**

Our technology in 2037 will be self-prescribing glasses that have frames which can be set to take on shapes, be they presets or custom models made by the consumer. This ability to take on any shape would be achieved using a magnetic fluid and a rechargeable electric current which magnetizes a wire within the glasses. The fluid also has an expansive and constrictive material going over it. This material, a magnetization-cancelling substance, could fit to any of the shapes that the glasses take on. The material can also be set to harden into its current shape if the frame is not expected to be changing any time soon. The frame would then be heated up by an inner heater to melt the metal again. This hardening could prevent possible future damage from neglect, as will be mentioned below.

With the lenses of the glasses themselves, there is the ability to scan your eyes and go about fixing the prescription of your glasses. This technology could eventually save many people from the chore of continuously going to an eye doctor to simply check that a prescription is up to date. This eye scan can easily be adjusted for the use of finding eye diseases in patients much faster than a doctor could. This would make treatment quicker and less painful, seeing as how one wouldn't need to wait quite as long to get it treated, due to the instantaneous detection.

As for the glasses, there must be a way to recharge the inner electrical current.

The solution for this - the glasses will plug into a power port for re-magnetization via micro usb cable ends. These cable ends protrude from the back of the glasses and can be covered with caps when not in use. The glasses also have warning pop ups that will

inform you of it's low battery as soon as it hits only twenty four more hours of use. When the glasses will demagnetize in an hour, any other add-on functions besides the base glasses will be disabled so as to lower the chance of the fluid losing its attraction to the wire. If a user goes without charging their glasses and allows for the magnetization to completely stop, the frame will fall off of the wires and likely tear through, or permanently damage the material around the fluid, leaving only the wires as the frame. That is of course, if the outer material isn't set to harden and is still a liquid. If the fluid falls through the outer "membrane," the lenses themselves would probably fall and break. Any neglect that ends in such a result will not be covered in any insurance policies, but the fluid and lenses can be purchased separately.

The add-ons that were mentioned above includes a virtual reality "headset," a night vision ability, and a phone call function. The base pair of glasses also change to sunglasses when it is bright out so, that is not an add-on and thus does not have to be bought as a separate part.

The VR add-on, the more unique of the different parts available, comes with a few pieces apart from the "headset" itself. It includes earbuds that have motion sensors, room temperature monitors and sound cancelling properties that can both block out the distractions of external noise and keep you alert to any intruders or possible sources of danger in your house. These earbuds can be bought in higher qualities for higher prices with the ability to monitor more things while you are inattentive to the outside world. These include keeping track your heart rate or traces of toxins in the air. The way that the virtual reality would work with the glasses is that the glasses would become blacked

out and you would be put to sleep. The blacking out of the glasses would work in tandem with the earbuds in preventing the possibility of you being bothered or awoken while you are asleep. While asleep, cables are connected to your head to monitor brain activity and impulses. The cables then "hijack" the part of your brain that controls dreams. The game itself is then put into your mind as a dream. While in this lucid dream, you have an extremely large frame of movement and freedom of action. Being unable to pick up objects because they are just part of the scenery will no longer be a problem! For example, grabbing a random, undesignated flower on the ground will be more than possible.

In addition to the increased freedom, there will be a higher degree of realism in games at a reduced graphic level for the company who made the game. This happens because your brain will fill in any missing quality as the "game" is processed. So, your own mind can make the graphics exactly how you want them, within the limits of fairness, of course. Periodically in a game, as a sort of autosave option in single-player games, data will return to your glasses through a returning cable. The glasses will then connect to a database which will save your progress. In fast-paced multiplayer games, the returning signal will be much faster and will thus update extremely quickly.

When a player wants to exit the game, a pulse will be sent through the brain that will interrupt sleep. This will not be extremely harsh and sudden, however, in order to prevent damaging parts of the brain. Basically, a small pattern error will be put in your sleep that will then slowly wake you up. Players can decide to choose more harsh wake-ups at their own risk. However, after using a harsh wake-up often or trying to go to

a more damaging shock, said player will become restricted and unable to choose the possibly-damaging option anymore or for a very long while. It is suggested that players do not try to cut close to any departure times when leaving to go somewhere since they may not be ready to go in time..

To keep our magnetic fluid magnetized, it was decided that a charging port should be created. This will keep the frame of the glasses magnetized, causing less of a chance of deformation of the frame. This mysterious material could also be controlled by very sensitive magnets so it could almost be programmed. These technologies are possible in the near future, even if they aren't now. Eventually these key ideas will be discovered, helping push forward the bright future of self prescribing V.R. glasses.

### Breakthroughs

Using current materials that nearly nullify magnetic waves, a new material that is much stronger would have to be made in order to reduce risks of injury. Of course, if an unknown substance was found that did the job, that could easily be used as well. The current magnetic materials would likely have to be experimented on to see at what temperatures they are best at blocking the waves and also what combinations of the separate elements would be the most efficient. Once a proper substance has been obtained, a process also needs to be created in which that substance can maintain its nullifying properties while also being extremely stretchy and moldable. The stretchiness would also have to be managed in such a way that being stretched out for long periods of time wouldn't damage the material and make it too loose fitting.

The way that the VR system would connect to the brain is quite a troubling

topic. Current technology such as a light-emitting nerve-covered item that can be inserted into the brain allows for changes in the behaviors of animals. This, however, could be quite controversial purely because it can change people's behaviors. That's not even taking into account that it involves surgery and implantation into the brain, a very sensitive and important part of the body. This procedure would be quite dangerous, and would be ill suited for mass production and use mainly due to its expense and the simple fact that no one would want to get surgery for entertainment purposes. So, instead a new procedure would have to be made. A possible solution could be the neurons being somehow connected to the VR through your retina during the eye scanning process, or through the earbuds using your auditory nerves. Information would then have to travel through nerves, to the cerebral cortex - the location of dreaming. Both of these options may be possible or, they may not be. Further research would be needed in finding a new and harmless way of accessing the brain.

### **Design Process**

One feature that was brought up during the development of our glasses was the idea of having the arms of the glasses be adjustable in length. An easy and efficient way to do this when there were wires inside the glasses was not found. We did not want to crush the wires or cause any problems so that would've had to be dealt with. Put simply, this function could still be put in, but it is not crucial enough that it needs to be.

Generally the arm length wouldn't need to be adjusted too much and, if the consumers simply bought base wires that were a bit over their current size and bent it a bit farther behind their ears, the wire could easily just be bent to make the arm part longer at a

later date. The fluid which would be sitting around the wires in a preset shape would also help control this and prevent any problems with the bent wire staying in an incorrect shape. So, adjusters aren't needed and would be unnecessarily complex and expensive.

An idea considered during the creation of our glasses ended up being the self prescribing pet glasses. Your pet could wear these glasses and be in the same virtual world as you for more bonding time. There would have been an elastic band to wrap around their collar so that the V.R. set would not fall off. We soon realised that many pets do not like having anything on their face, so we considered contacts. This idea at first was good but, as with having something on their face, a pet would never let someone put contacts in their eyes. One thing that could work is creating a virtual reality dog exactly like your own dog, only in a V.R. experience. Though, while having man's best friend in your V.R. experience would be interesting, it does not make sense. There are much cheaper and easier alternatives. The pet will also be appreciative of not having to wear glasses or contacts.

Another idea we had was a more in depth V.R. experience by using a bed as the portal to V.R. rather than glasses. Our idea was that you could plug your glasses into your bed, charging them while living in a V.R. world, much like how you can plug in your phone and still use it. This seemed like a good idea at first, but we soon realised that we didn't need the bed and could just use the glasses. The glasses would have the same effect just less bulky and easier to use. While the bed could have worked as an alternative we felt that just using the glasses was a much better idea.

### Consequences

With the base glasses design, having a magnetic field close to your brain could cause health issues, even sometimes on the extreme side of the spectrum. While magnetic fields can sometimes have no effects on your brain when in close proximity, there are also times when mania, seizures, hearing problems and even speech disorders are caused. These problems are all slightly fixed by having the material going over the fluid part of the glasses; however, it may still allow for brain problems because nothing currently known of can completely nullify magnetic fields. That is why a new substance must be found to make this not harmful, as was stated earlier.

As addressed in the "Breakthroughs" category, our VR technology comes with some level of risk in its use as it is now. The fact that the brain is accessed makes it potentially quite detrimental to the health of users. Unless a solution can be found that is most definitely safe before production, the technology would have to exist like cigarettes – people wouldn't know that they were dangerous until later when research was done on smokers discovering how harmful it is. Now obviously we aren't making cigarettes but, much like a new "safe" drug, our technology could seem quite harmless at first but may be otherwise in the long run. Hopefully this wouldn't be the case, but one must be a realist when evaluating new technology.

So, in moderation, the hijacking of your brain and input of dreams would likely not be too dangerous. When done constantly, however, this may harm your brain.

Additionally, with dreaming in general, your have about 4-6 dreams every night. Since dreaming happens often in your brain, replacing dreams could mess up that natural

function. The fact of it being replaced, however, may prevent negative reactions to the VR since it would just be swapping out dreams that would already be existing rather than completely removing dreams altogether. Though, having these extensive lucid dreams may be dangerous or impossible due to your memory temporarily "shutting down" during the night. The VR may ruin that function, which would be quite damaging to the body. So, the safety of these VR dreams would have to be verified later on. Possibly simply refraining from gaming in the REM stages of sleep would protect the brain's natural functions enough so as not to cause complications.

Aside from health risks, there are some social risks that could come with V.R.. As V.R. in general becomes more prevalent and common, virtual experiences may become more accessible and attainable than *real* experiences. Who's to say that marrying virtual people wouldn't become commonplace? Dating sims and the idea of cartoon girlfriends are already widespread so, such an idea, though absurd-sounding, isn't actually that much of a stretch. If people forego real experiences for virtual ones, society as a whole could fall apart. With the earlier scenario, birth rates could decrease due to the decline in actual human relations. This could be solved with artificial insemination or surrogate mothers but, such alternatives are quite difficult and taxing on the economic and governmental systems. Average, commonplace births would be the most cost efficient, and effective way of having children rather than any roundabout ways that may become popular out of demand.

With demand in general, other services such as jobs in the real world could decline. A lot of work could start in the virtual world, pulling much-needed workers from

the comforts of an Earthly job and dragging them into a virtual workforce. With virtual games in particular, there may become more job opportunities in games. Some players who do not have the time or effort to reach goals on their own but want to reach a goal anyways, already are paying others to play the game for them. So, if one could practically live in a virtual world through their dreams, of course there would become more gaming jobs. Also, games would likely become more real in general. Gamers would take games even more seriously, causing the job industry for gaming to boom and with that, suck away the jobs and resources of real life. If anyone could make a living off of having fun in a game, why would there be any farmers or accountants anymore? Humans always jump at opportunity, even if it leads them, as a species, down a detrimental path.

On the positive side of things, with this form of virtual reality, the problem of gamers being sleep deprived zombies can easily be solved since you can sleep while gaming. Consumers could capitalize on the hours that they have to sleep normally. Rather than having twelve to eighteen hour days you can have full twenty-four hour days, working during the day and relaxing at night. The virtual reality system could also extend to connecting to the internet databases and allowing for doing online work while asleep. So, while procrastinators could use this to wait even longer to do their work, those who are productive and work nearly constantly on tight, stressful schedules could find time to relax and unwind through the VR - or they could just get a few more hours to work.

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# Our Life-Changing Product

Flex Specs

Do you not want to settle for an "okay" frame or deal with long visits to the eye doctor? Well, our self-prescribing glasses are just right for you. Their frames can be "programmed" to take on certain

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A History on

Glasses

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A History on

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An In-depth

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View

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Games

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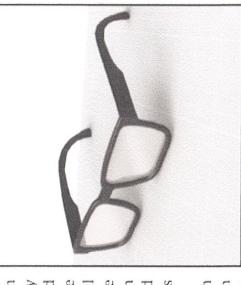
shapes and you won't have to go anywhere for prescription correction! The glasses also include add-ons ranging from night vision to virtual reality tech. The VR specifically includes many useful parts. In the future, the VR can be used to allow for working online or relaxing while you sleep since the virtual reality itself will be in a dream, meaning you will be able to sleep while doing things through the VR! The eye scanner will also be able to pick up signs of diseases as soon as they develop! Glasses have evolved in shape and prescription power over the years. We intend to make this product a major part of this history.

These progressive glasses, as mentioned above, can be set to take on any shape, be they presets or custom models made by the consumer. This ability to take on any shape is achieved using a magnetic metal and a rechargeable electric current which magnetizes a wire within the glasses. The metal also has an expansive and constrictive material going over it. If you want to learn more about how the glasses work, click on "An In-depth View" and read on!

Prescriptions

Available

Competitors



Though the VR system is a main attraction for these glasses, the purchase of the system is separate from the purchase of the base

Special Effects: The glasses image switches between the base glasses and the glasses with the VR attachment.

A

Place an Order

Projected VR

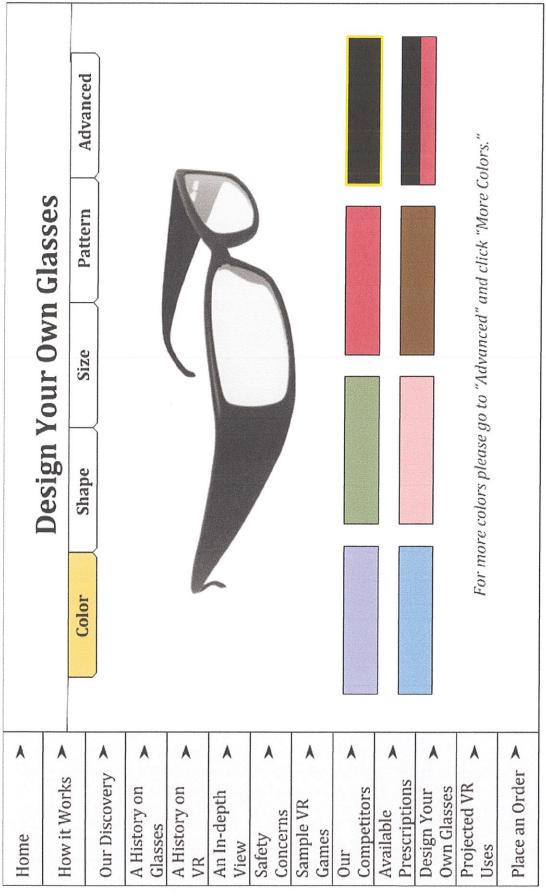
Own Glasses

Design Your

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"In Cart" section. If items are all part of a custom purchase, they will all appear in a group, indented underneath "Glasses." Any Special Effects: Warning appears after hitting "Order Now" when applicable. Hitting "Add to Cart" also puts the option in the items in the "Sale" category will be removed from their previous area temporarily to prevent someone accidentally seeing or buying the item at the original price.

Special Effects: When a part is clicked on, it is highlighted and a short description of the part is given. The 3D models of the parts are also interactive.



Special Effects: When an option is selected, it "lights up" (gains a yellow border or yellow fill).

	Comp VD Comp	Sample vr dames	Delow is a list of the games currently available for purchase on the VK glasses.  Click the "Download" button to try out a computer-adapted, trial version of a game.	2	cles: China	Assassin's Creed: India		ction o me	Battlefield 1.	Call of Duty: Black Ops III	Duty: Infinite Warfare	Call of Duty: WWII.	Destiny.
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110000	ноше	How it Works	Our Discovery	A History on Glasses	A History on VR	An In-depth View	Safety	Sample VR Games	Our Competitors	Available Prescriptions	Design Your Own Glasses	Projected VR Uses	Place an Order

Special Effects: None other than downloading and, for more basic games, possibly being able to open in a browser. Note: There aren't any such basic games in this list so there is no option on the screen for opening in a browser.