Steal this idea
VR for Parkinson’s

1. Create a VR/mobile environment to test tremor, bradykinesia or rigidity (incorporate sensor technology), or
2. Create a VR experience where the user views the world of a person walking normally vs. walking with freezing of gait – which can be used intraoperatively when collecting neural recordings. The VR/mobile environment will also help to measure freezing of gait (incorporate sensor technology, assess treadmill walking when viewing view different environments that may alleviate or exacerbate freezing of gait), or
3. App for measurement of pain symptoms and activity levels (incorporate sensor technology), or
4. VR environment and hardware for intraoperative assessment of patient symptoms
The goal of this app is to provide an engaging, 3-D, action painting experience in a portable virtual reality platform, e.g., Merge or Google Cardboard with a cell phone. The app will be used as an alternative or adjunct to a dose of prescription pain medications, with the goal of decreasing opioid use.

Body movements, via either sensors integrated in the Merge/phone or handheld sensors (gyroscope/accelerometer), will be transformed into splashes of color on a 3D canvas. Splash shape can be defined by brush style and may be lines, circles (default), or spray.

The 3D canvas takes the form of a sphere (universe), a cube (room), or a plane (wall) of a standard size. Room sizes can be increased or decreased by the user.

Colorways may be selected by users to personalize the experience. The paint color initializes randomly within a colorway and progresses through the palette.

Finished playscapes will be saveable and reloadable.

Presets for up to 5 preferred combinations of brush style, colorways, canvas, canvas size, and playlist are available for quickplay and can be changed by the user.

Sound options: Instrumental music plays by default (calming, energizing, off) but can be changed. Music playlists from the devices can also be accessed from the app to provide a multisensory experience. When music plays, information from both the sensors and the music will contribute to the aesthetic of the painting (enhance velocity/distance of spray, changing colors with rhythm, etc.).

The app should work on either iPhone or Android devices.
The goal of this app is to provide an engaging, 3-D, guided meditation experience in a portable virtual reality platform, e.g., Merge or Google Cardboard with a cell phone. The app will be used for relaxation and stress relief.

Nature environments, a mandala (e.g., candle flame), or other relaxing images should be incorporated into the app.

Users will be encouraged to focus on their breathing rate, with a goal breathing rate of 8 breaths per minute.

Incorporation of biofeedback via either sensors integrated in the Merge/phone, EEG sensors, or handheld sensors (gyroscope/accelerometer) are encouraged, to help users achieve goal breathing rates, decreased heart rate, etc.

MBSR (mindfulness-based stress reduction) recordings to may also be used to guide meditation in the app.

The app should be designed to work on either iPhone or Android devices.
Build a brain hologram app for the Merge Cube
Hologram should be 3D, interactive (rotate-able, peel-able layers) and layered
Demonstrate neural anatomy
Draw pathways affected by Parkinson’s disease, the location of DBS implant for Parkinson’s disease, or other neural circuit anatomy
Hologram purpose is for teaching students, counseling patients, etc.
App should play on iPhone or android devices
Build a HoloLens app to help those with stroke recover from neurological neglect. Neglect is typically characterized by failure to see things or interact with things in the left side of a person’s world.

The app should place target holograms on the left side of the Holospace and prompt a user to find and select the objects.

Make the object selection fun and interactive.

Gamify: Keep track of performance, provide cues and clues (“look for a blue dinosaur”, “only 1 more object to find!”)

App should play on Hololens, but give feedback mirrored to an android tablet or windows computer.
Patients in the hospital for a long period of time can take a virtual vacation in virtual reality. The goal is to transport viewers to another place and activity.

The app should be intuitive and easy to use for people who are sick or not tech savvy, but flexible enough to easily add new videos or 3D still images, save favorites, and personalize content (e.g., to play favorites on startup, adjust volume, play music files with stills or instead of audio on video).

The app should be playable on an android or iphone with a Merge or Google cardboard.
3D VR Videos and 3D stills can be downloaded (e.g., http://www.ohio.org/VR) or recorded using 3D Nano cameras.