The Story of Your InventionFit n Run

What is an invention?

An invention is something new that enables us to solve a problem or do something better or easier.

‘

The purpose of this Invention Log

All stories have an ending. In this case, the ending of what you are doing is your invention. But all stories also have a beginning and middle. The purpose of this Invention Log is to tell the entire story of your invention. In it, during every step you take in making your invention, you will record what you did, why you did it, and how you did it. This Invention Log is an important part of the invention process and is a complete and accurate record of the ideas, plans, and processes by which the invention was created. Invention Logs can be used by students to prove they came up with the idea and invention. Oftentimes, they are used as part of the patenting process.

How to use this Invention Log

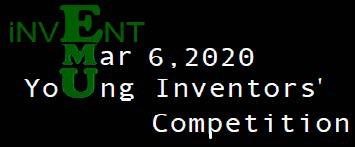
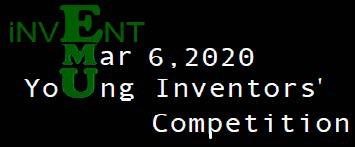
The Invention Log is not a book report that is created after you are done. Rather, it is a diary that is continuously filled in as you work on your invention. Follow the steps of the invention process and fill out the various pages as you work on them. When you are done with a page, print your name and the date at the bottom. If you need extra space for any section, make copies of the Blank Page (Page 17) and use that for any purpose. Once you are done, put the pages in the order in which you did them and staple them to make a complete Invention Log. This log will also be used as part of the final presentation and needs to be filled in using complete sentences (except for things like a list of materials). Teams share one Invention Log and should attach signatures of all inventors.

The name of the invention: FIT n Run

The problem that it solves:

I am making educational game to encourage

kids to exercise while learning.



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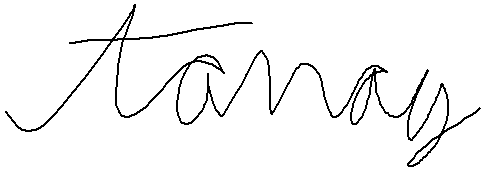


Statement of Originality

I promise that the ideas in this Invention Log are my own. (If a team, all should complete.)

Inventor Name(s): Tanay Panja

Signature(s):



Date: 02/19/2020

Grade: 6th Grade

School: Clague Middle School

Town: Ann Arbor , Michigan

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Invention Process Overview

Identifying

Understanding Ideating Designing Building Testing

Communicating

Identifying a problem means brainstorming and using research to discover problems and who might have these problems. You might uncover these problems at home, at your school, with your sports team, listening to the news, or somewhere else entirely.

Understanding the problem means you know what is causing the problem and exactly what you want to happen when the problem is solved. The better you understand the problem, the better your solution will be.

Ideating means thinking about the problem: brainstorming and researching different ideas and options to solve the problem.

Designing means deciding what your invention solution will be made of, what it will look like, and how it will work.

Building means assembling your invention based on your solution design using the materials and the process you have decided to use.

Testing your solution is how you find what works and what doesn’t. You will modify or change your design, build in those changes, and test the changes. Testing also includes an analysis of the pros and cons of the invention, its impact on society and the environment, its marketability, and its social value. You keep repeating this process until your invention or prototype works and works well.

Communicating means explaining the problem and your research, how your invention solution solves the problem, who might use your invention, your process in creating this invention, and how you might

make it even better.



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Terms to Explore

These are terms that have to do with inventing. Some of these terms are used in this Invention Log, and some may be terms that you will want to use to describe your process. Please read over these terms before you get started.

advertise – the act or practice of calling public attention to one's product, service, need, etc., especially by paid announcements in newspapers and magazines, over radio or television, in social media, on billboards, etc.

brainstorm – to produce an idea or way of solving a problem by holding a spontaneous group discussion or individual thinking session.

data collection – the process of gathering and measuring information of different variables, in a systematic way that helps one to answer research questions, test hypotheses, and evaluate outcomes.

design – to plan and make decisions about something that is being built or created. To create the plans, drawings, etc. that show how something will be made.

durable – able to withstand wear, pressure or damage.

engineer – people who invent, design, analyze, build, and test machines, systems, structures, and materials to fulfill objectives and requirements while considering the limitations imposed by practicality, regulation, safety, and cost.

entrepreneur – a person who organizes and operates a business or businesses, taking on greater than normal financial risks in order to do so.

experiment – a scientific procedure undertaken to make a discovery, test a hypothesis, or demonstrate a fact. hypothesis – a proposed explanation using previous knowledge, but made on the basis of limited evidence; a

starting point for further investigation.

improvements – the act or process of making something better; the quality of being better than before.

interview – a formal discussion to establish needs or requirements; a report or reproduction of information is obtained.

inventor – a person who invented a particular process or device or who invents things as an occupation. invest – to put (money) to use, by purchase or expenditure, in something offering potential profitable returns.

market – to advertise and offer a product for sale; to present something in a particular way and make people want to buy the product.

marketable – able or fit to be sold or marketed; meets enough market needs to be able to be sold. original – created directly and personally by a particular artist; not a copy or imitation.

operational – in or ready for use.

patent – a government authority or license conferring a right or title for a set period, especially the sole right to exclude others from making, using, or selling an invention.

perseverance – continued effort to do or achieve something despite difficulties, failure, or opposition.

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pitch – promotion by means of an argument and demonstration; a short verbal dialogue that tells the story and benefits of a product.

problem – a matter regarded as unwelcome or harmful and needing to be dealt with and overcome. product – something that is made or grown to be sold or used.

profit – money that is made in a business, through investing, etc., after all the costs and expenses are paid; a financial gain.

profitable – yielding advantageous returns or results; yielding a financial profit or gain.

prototype – an original or first model of something from which other forms are copied or developed; an early version of a product that helps the inventor consider different options for design before finalizing a go-to-market design.

publication – the act or process of producing or printing a book, magazine, newspaper, etc. and making it available to the public.

research – the study of materials and sources in order to establish facts and reach new conclusions. seek – to search for something or someone; ask for help to achieve something.

solution – something that is done to deal with a problem; something that solves a problem.

source – the point or place which something starts; a place, person, or thing from which something originates. substantially – to a great or significant extent.

test – a procedure intended to establish the quality, performance, or reliability of something, especially before it is taken into widespread use.

testimonial – a written or spoken statement in which you say that you used a product or service and liked it.

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Requirements and Restrictions

To participate in the STEMIE National Invention Convention and Entrepreneurship Expo (NICEE) in the Spring, there are certain restrictions and requirements.

• Your teacher must sign off on your solution/invention before you begin building your design.

• Remember that animals are not allowed at NICEE, so if your invention is for animals, you must demonstrate it in pictures or on a stuffed toy. Demonstrations/presentations may not include human beings or other living creatures.

• Your display board must be no wider than 24”’ with the 12” wings folded in.

• You must have a COMPLETED, SIGNED Invention Log with each page signed by you.

• Your prototype/invention should be no more than 2 feet high and 2 feet wide and be able to set on a table top.

• Your invention does not have to be a working model, but you need to be able to explain how it would work. If it can be operational, it should be.

• Wall outlet electricity (120 VAC) may NOT be used at NICEE. Battery powered devices are fine.

• Inventors may not use lighters, matches, candles or any other open flame or heat source nor any material or liquid considered combustible.

• Inventions may not contain biohazards or utilize any materials that are, or could become, dangerous.

• Other restrictions include: electric stun guns, martial arts weapons, guns, replica guns, ammunitions, fireworks, knives of any size, mace, pepper spray, razors, box cutters or balloons.

• If your invention cannot be actually demonstrated at NICEE due to issues with size, electricity, or hazardous materials, a video of the device in action can be shown.

Originality

It is very important that your solution is original and does not already exist or is substantially different from any other invention. These are great places to research to find out if your idea already exists:

• Libraries (ask a librarian for advice on where to look!)

• The internet (e.g., [www.google.com,](http://www.google.com/) [www.bing.com)](http://www.bing.com/)

• Stores (e.g., [www.amazon.com,](http://www.amazon.com/) [www.bestbuy.com,](http://www.bestbuy.com/) [www.walmart.com,](http://www.walmart.com/) [www.target.com)](http://www.target.com/)

• Books about your topic(s) (look up at [www.bn.com o](http://www.bn.com/)r [www.amazon.com)](http://www.amazon.com/)

• Professionals in the industry (check out [www.linkedin.com f](http://www.linkedin.com/)or possible people to interview)

• Trade/industry-specific publications (each industry has topical magazines and websites)

• United States Patent and Trademark Office (visit [www.uspto.gov t](http://www.uspto.gov/)o search for patents and trademarks)

• Domain registrars (e.g, [www.GoDaddy.com t](http://www.godaddy.com/)o see if your product name .com is taken)

The Steps You Will Take

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As you work on your invention, follow these steps and check them off as you complete them. Don’t write your ideas here – use the appropriate space in the following pages to complete each of the sections.

1. What problem are you trying to solve?

2. What is the result you are trying to achieve?

3. What are some possible solutions and which one did you choose to do?

4. Has this solution been done before?

5. Make a model (drawing) of the invention.

6. What problems might you encounter with this design?

7. How will you fix those problems?

8. Repeat steps 5 to 7 until you have a design that you think will work.

9. What parts and materials will you need to make the invention?

10. Where will you get those parts and materials?

11. What additional skills will you need to make the invention?

12. Who can help you do those activities?

13. Get the parts and materials and build the invention. Get any help you need to build it.

14. Test and evaluate the invention.

15. Identify any problems with the invention.

16. Repeat steps 5 to 15 until the invention works as planned.

17. Name the invention.

18. Plan and create the Invention Display Board.

19. Practice what you will say about your invention in the Judging Circle.

20. Be proud of what you have done!!!!

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Explaining the Problem and Identifying a Solution (Identifying and Understanding)

1. What problem are you trying to solve? The more specific you are in describing the problem, the better your solution will be. How did you come up with the problem?

Invent a new game: I decided to find a way to make exercise more educational and fun. Guidelines from the Department of Health and Human Services say that children and adolescents age 6 and older need at least an hour a day of physical activity. Otherwise, bones and muscle will not develop properly. Exercise is tedious and will become boring.

**Market Potential and Value Proposition: Statistics-**

According to the 2017 Youth Risk Behavior Surveillance System (YRBSS), 14.8% of high school students had obesity and an additional 15.6% were overweight. Education is important for kids 6 and older. The global game-based learning market was worth around US$ 2.4 Billion in 2018(1). Also, Kids are spending a lot of time playing games, watching tv or using iPad and phones and televisions. According to CBS News, “Kids and teens age 8 to 18 spend an average of more than seven hours a day looking at screens.” According to Forbes, the amount of Gaming going on was 25% higher in 2019 than 2018

ABC News conveys the second most **popular thing on Screens are video games.** There is no game based learning product in the market that promotes fitness in kids K-12 which encourages kids to run.

(1)[https://www.researchandmarkets.com/research/7shv4l/global\_2\_4\_bn?w=12](http://www.researchandmarkets.com/research/7shv4l/global_2_4_bn?w=12)

2. What is the result you are trying to achieve? The more specific you are in describing the result you want, the better your solution will be.

I would like to encourage kids to start making physical fitness part of their daily lives. The result I am trying to achieve is to make the customers learn along with improving health and overall fitness. I want to make exercise fun so that youth is no longer obese. The kids from k- 12 can learn something new while exercising. Kids like to play games. There is no treadmill integrated game in the market currently in 2020. Kids are sometimes forced to spend time indoors due to weather (snow, rain, heat, etc.), Exercise is important for growing minds and bodies. Home based gaming app that is integrated with treadmill would be a good invention.

3. What are some possible solutions? Which one did you choose to pursue? How did you decide which solution to try? The more specific you are in describing the solution you will create, the better your invention will be. How did you come up with the solution?

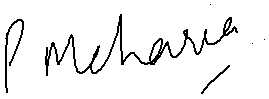
The current popular strategies to make exercising fun are listen to audio books or music, watch movies or TV. Main forms of exercise are Aerobic (treadmill, bike) and Anaerobic (bands and springs used to simulate weightlifting). **I chose to focus on running on the treadmill.** Treadmill running is boring and Monotonous, with no interesting scenery. I chose treadmill as most household already have treadmill and kids currently like popular running game. Object of the game is to find a lost satellite on Mars while learning facts about Mars. I have also associated aerobic exercises (running, walking, etc.) in this game, like “Jog 400 yards!”All my peers love to play games. I want to use their interest in games to make them learn new concepts while playing a physical game. As a 12-year-old I am learning programming to design games as part of middle school Science Olympiad and I have completed Python programming classes through Ann arbor public school A2 virtual program. I want to use my programming skills to develop a game that makes exercise more fun and educational for kids.

**The solution I came up after following the engineering design process of ask, design, test and then redesign face after many attempts was**

* The game “ Running out of Mars” which Starts off with tutorial, play and help buttons.
* The gamer has Choose-his-own-adventure game set on Mars.
* Gamers have to Run on treadmill to move between in-game locations. Gamers also learn about the planet mars as they run on mars.
* Demo will be implemented as iOS app.
* It will be fun, as using a treadmill to move between locations and feels like a real astronaut on Mars.
* It encourages player to try playing game again and again if he loses the game. The gamers also learn facts about the Martian Planet as he is playing.

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4. Has this solution been done before? If it exists, how is your approach different and better? What research did you do to see if this invention had been done before? Who did you talk to? Where did you look? What website did you search? You should show 4 pieces of evidence of different types of research – talking with experts, searching the internet, interviewing friends and family as to how useful this would be, etc.

Where I looked to see if my idea is new:

A. I went to the store game stop and looked online at available games in the market. I looked at the game console makers like WIFIT, XBOX, play station to see if I can find exercise and learning game.

B. I talked to my potential customers (my peers) about how many hours they exercise and if they play any exercise or education game or would they be interested in purchasing them if there were in the market.

C. I looked at the current market offerings via google search of products that makes running on treadmill fun.

D. I talked to my programming instructor to see if game-based learning app can be incorporated in Treadmill. I talked to my uncle who works for the gaming platform that supports the popular running game called poke man.

Document any similar inventions you found, describing how yours will be different:

1) I found [Zwift d](http://www.zwift.com/)eveloped in 2019 a Multiplayer Online Application that tracks what runners in the physical world and translates that effort into a virtual world. Runners are essentially interacting in the same world. Within this world, runners can connect with people across the world and run together in a group, give each other kudos, do workouts and explore several virtual maps together. My product would target kids and they cannot connect to other people across the globe without parental controls.

Also, my product will have educational material to make them learn new materials while they are walking or running.

2) I found WIFIT with balance boards, but it is not suitable for running game and is not educational.

3) I found Pokémon GO game where the user explores real locations and search far and wide for Pokémon. The game requires walking and running but it is dangerous. My game will be on treadmill and hence will be safe for kid

Teacher Signature - REQUIRED FOR ALL PARTICIPANTS

I approve of the solution/invention my student has chosen to pursue and agree that it not only meets the guidelines shown on the Restrictions and Requirements page, but that it is also safe.

Teacher’s Name (Printed) Priyanka Meharia

Teacher’s Signature ate 02/12/2020

D

I approve of the solution/invention my student has chosen to pursue and agree that it not only meets the guidelines shown on the Restrictions and Requirements page, but that it is also safe.

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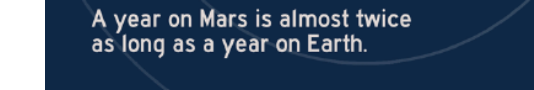
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Creating and Improving the Design (Ideating and Designing)

5. Draw a model (a sketch or drawing) of the invention you are thinking about building. Label all the important parts and features. Explain how the invention will work. If you need more space, use another blank page.

FitnLearn: Run In mars - The educational game will teach the runner about mars. Know about mars facts while you walk. There are many ways a game can use the treadmill. For example, our game cares about distance and lets player control speed, but another game could require the player to run quickly to escape danger. Different games can be fitted to different exercise routines. A variety of games gives users choices and lets them mix up their routines.



I would have to think about what programming language should I use. How do I integrate the game in the treadmill? Also, what features should be part of the design. The game must be connected to pedometer to calculate the steps walked, should measure the heart rate for different types of workouts and the game should be connected to treadmill to increase or decrease the speed based on level of the game.

Educational Game

Bluetooth Treadmill

Heart Rate Monitor

Pedometer-measure the steps

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6. What problems or issues might you encounter with this design? Is this design compatible with the principle of sustainability? Who did you talk to about this design (another student, parent, teacher, etc.)? What were their comments about your design?

I wanted to integrate a pedometer, an iPad/tablet, and a device to measure rate of the runner and find ways

to integrate it with iPad/tablet. I had to think about the cost of the products I would need to make this invention not very expensive. I was having difficulty finding which programming software to use. I talked to my mentor and discussed. Users on the treadmill can be lazy and may not want to run. The game must force the runners to run and make the running interesting too. The game-based running will give some incentive for runners to win the game and run.

7. How can you fix those problems or address those issues?

I was advised that I should apple products such as apple watch, iPad and use the Bluetooth to connect those to the treadmill. Apple watch has pedometer, heart rate monitor and lot of users are already apple users. My current market is for people who are motivated to be fit and may already have an apple product. For the program to work I had to use the apple iPad to play the game. This game is made on the storyboard which is in Objective C in the XCode Platform. The game will be App that can be available in the app store.

8. Repeat steps 5 to 7 until you have a design that you think will work. You may have to make multiple copies of a blank page until you have a good design.

I had to learn how to code in Apple X code platform. The game must force the runner to run. So, when the user is given the option to go on foot or take the buggy. Even if the user chooses a buggy the game should force the user to run.

Further possibilities

* There are many different ways a game can use the treadmill
* For example, our game cares about distance and lets player control speed, but another game could require the player to run quickly to escape danger
* Different games can be fitted to different exercise routines
* A variety of games gives runners choices and lets them mix up their routines

Spin-off potential

* I made our invention for runners, but it would work just as well for cyclist.
* Wii Fit uses a similar idea but doesn’t allow continuous running

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Building the Invention or Prototype (Designing, Building, Testing)

9. What parts, materials, and tools will you need to make the invention and how much will they cost?

* I would need an iPad to test the code and apple laptop to code the game.
* The game will then be integrated with apple watch to measure the steps walked and heart rate.
* The game Starts off with tutorial, play and help buttons.
* The gamer has Choose-his-own-adventure game set on Mars.
* Gamers have to Run on treadmill to move between in-game locations
* Demo will be implemented as iOS app.
* It will be fun, as using a treadmill to move between locations and feels like a real astronaut on Mars.
* It encourages player to try playing game again and again if he loses the game. The gamers also learn facts about the Martian Planet as he is playing.

10. Where will you get those parts and materials?

I had the equipment at home to develop a demo game.

11. What additional skills or abilities will you need to make the invention?

I know python and block programming. I had to learn storyboard and x-code.

12. Who can help you build the invention?

My mentor helped me get started to learn how to use storyboard and XCode.

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13. Get the parts and materials and build the invention (with help).

Yes.

14. Test and evaluate the invention. What did you do to test the invention?

I ran a demo on my computer and evaluated if the invention was successful with 5 friends. I also surveyed the users who used my data and collected feedback. Based on the feedback I revised my code. Then I created a survey for my 10 friends to find how likely they will use the product between the scale of 1-5. I found out that users who do not exercise much (the bar in blue color) or exercised less than 2 hours (bars in color orange and grey) per day are more likely to use this product. My sample was my 10 friends between the ages 8-14.

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15. Identify any problems with the invention. What will you change to make it better?

Some of the sections of the game had broken links. I fixed this flaw by connecting the pieces to each other.

16. Repeat steps 5 to 15 until the invention works as planned. You may have to copy and make multiple copies of this blank page until you have an invention that works the way you want.

I still dint know how to connect my game to the apple watch. So my current game is in demo mode. The demo game is not integrated with apple watch, so it does not connect to the game. My revised game design would be the Game collects the pedometer data and heart rate data from the apple watch and based on no of steps run/walked it can assign the user to walk more steps to move up a level or to score more points. With the different terrains the game educates the user about the terrain. My demo game educated the users about the planet Mars.

Bluetooth enabled Treadmill

Apple IPAD runs the FitnLEarn game from the APP store

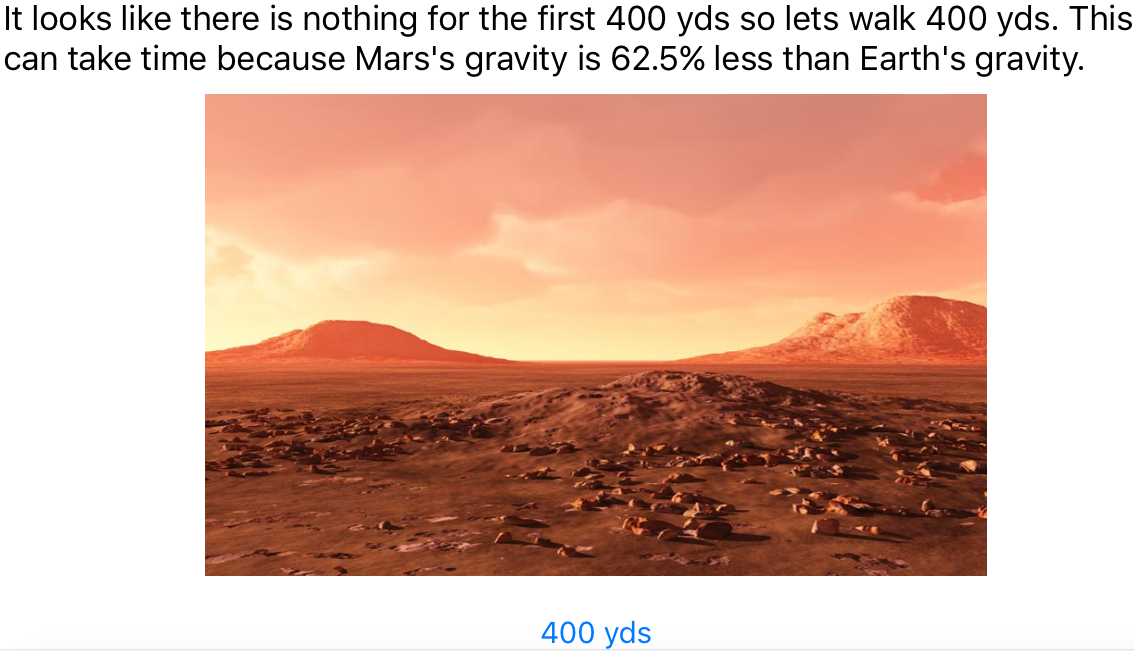
Apple Watch

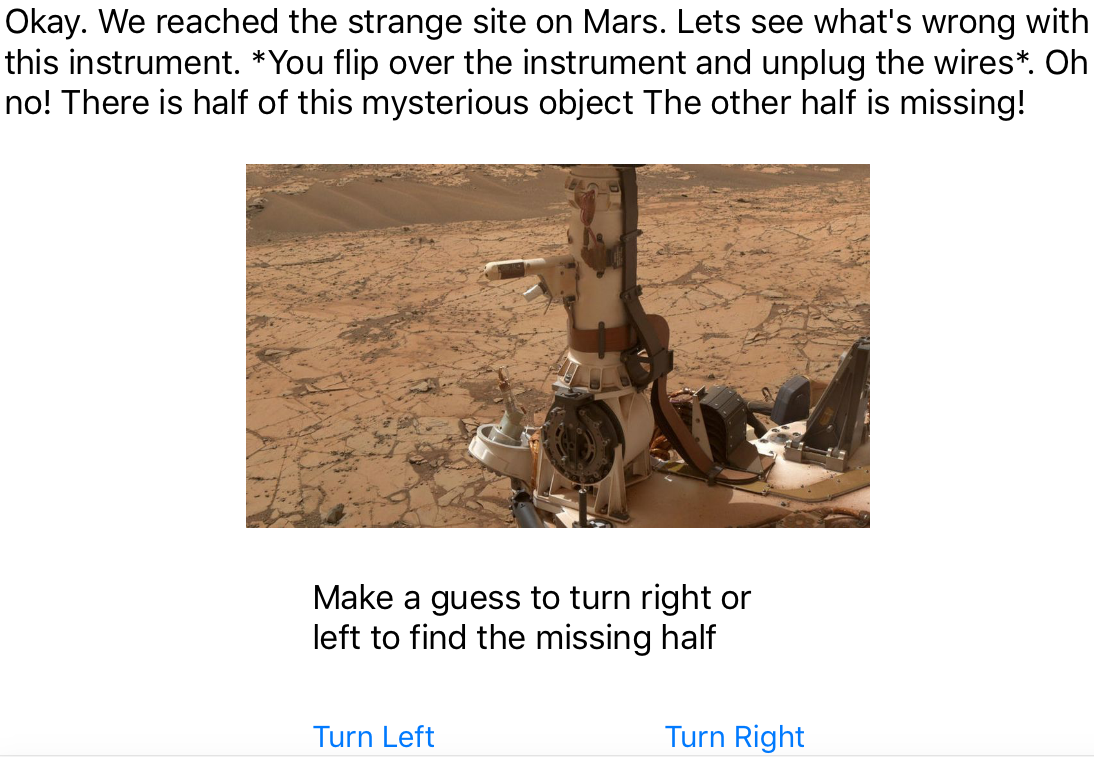
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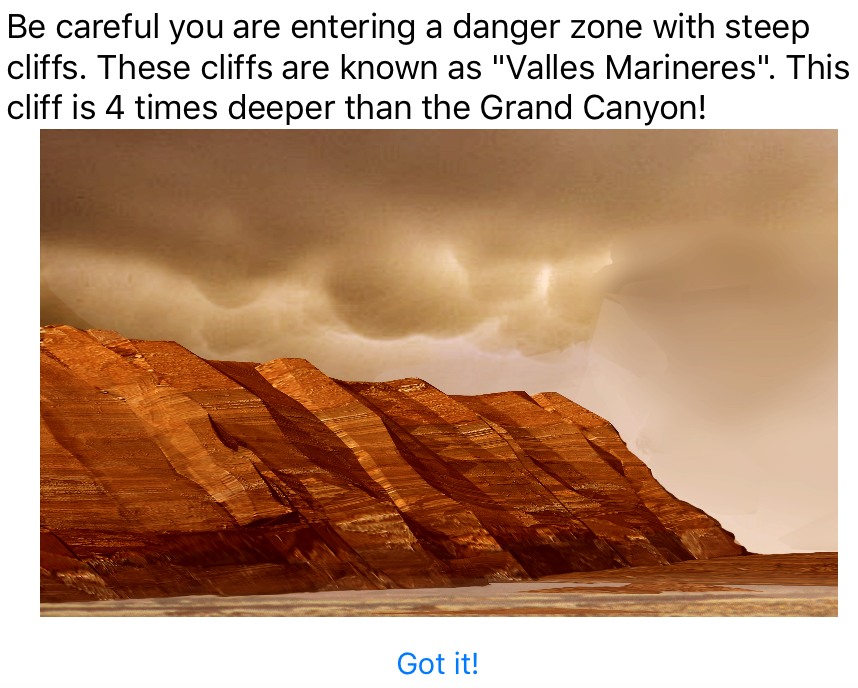


Some screenshots from the game “Running out of space” from the product Fit n Run.. The gamers were taught some facts about Mars as they were running while playing the game. Like in the shot below the gamer had to run 400 yards to move to next level and he was taught about mars gravity. This game is programmed as an IOS app to work on pple Computer/ipads or cast on Television.

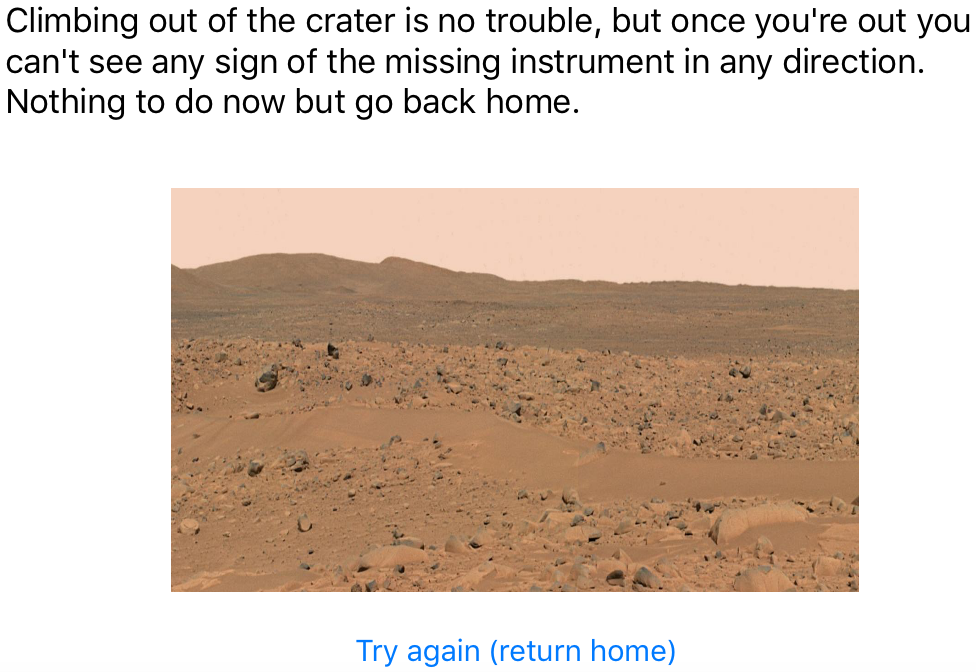






Gamers Learn about the Valley Marineres in the planet Mars in the game running out of space.

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Gamers have to continue walking/running to return Home. Home is after certain yards programmed into the game

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Naming the Invention (Communicating)

17. Naming your invention is important.

• What words describe your invention?

My invention is educational, functional and provides the best fitness to children. Also motivate users to walk on treadmill.

• Think in terms of words that will help you name your invention.

I could include the word ‘fit’ and something associated with ‘learning’ or the words game or education and exercise or running.

• What is the function of your invention?

The function of the invention is to make running based game that is fun and educational.

• Think in terms of marketing it. How will it solve the problem? How will it help others?

Kids today spend a lot of time on phone and ipad playing games. Parents want the kids to play educational games. This game can be played on a treadmill. The game has parental controls so the parents can also see that the kids have played games but has also exercised (running) while playing the game. The parents will then more likely encourage this kind of screen time. My invention will have impact and will benefit the users.

**SOCIETAL-**

* I would like to encourage kids to start making physical fitness part of their daily lives.
* The result I am trying to achieve is to make the customers learn along with improving health and overall fitness.
* I want to make exercise fun so that youth is no longer obese.

**COMMERCIAL –**

* My invention can be part of startup that develops different ways in which a game can use the treadmill for example, our game cares about distance and lets player control speed, but another game could require the player to run quickly to escape danger
* Different games can be fitted to different exercise routines
* A variety of games gives gamers choices and lets them mix up their routines

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• How is your invention different from others that may already be on the market? If it is similar, what did you do to make it better? How is it different?

My invention is very different in the market. My invention is game based learning, but it also promotes fitness in young kids. In Michigan is snows and playing outside is not always possible. This game can be played at home with a treadmill and it will help develop strong bones and muscles while running. The other game-based learning products in the market currently do not promote fitness. Do you know of any game-based learning product that also promotes fitness in kids k-12 and which involves running inside of homes?

• Who is your target audience? Who would use your invention?

The Global Games Market Will Generate $152.1 Billion in 2019 as the U.S. Overtakes China as the Biggest Market. The global game-based learning market was worth around US$ 2.4 Billion in 2018. Game-based learning aims to motivate students and capture their interest by using video game design and elements in learning environments. My target audience is kids in k-12 who already have an iPhone and apple watch or similar fitness-based watch. The kids would download the game and connect it to their treadmill. Having an IPAD and fitness-based watch would be required to use this game. This way the price of the game can be lower as we are not charging for purchase of additional equipment.

Some creative attention-getting techniques you can use are:

➢ Alliteration (using the same first letters or sounds): “Kit Kat”

➢ Rhyming: “Light Bright”

➢ Alternative spelling: “Sno Bal”

➢ Using numbers in the name: “Super Clean 3000”

➢ Describing the function of the invention: “Hydro-Blast”

• Based on this analysis, what are some good names for your invention?

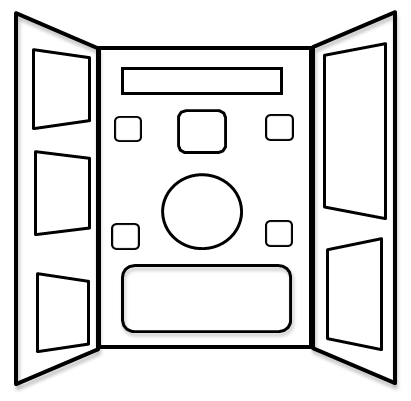
LearnNFit or FitnLearn Fit n Run Educatefit EduExercise StudynRun ReadnRun SmartRun

• Which name do you like best and why?

I likes FitnRun as it closely matched the function of the game. It tells the gamer that this game promotes fitness while they run. The learning happens while they are running in the game but the term education or learn is not used intentionally so that I can trick the users who do not want to learn but just have fun playing games to pick this game and still learn by using the game.

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Planning and Creating the Invention Display Board (Communicating)

18. Create your display board. This is an example of what a Display Board might look like, but you can make it look however you want. This is your invention and your display, so use your creativity to tell the story of your invention the way you want.

Be sure you use:

• Fonts that are readable (style, size, color)

• Colors that look good together

• Shapes that are the right size

• Correct grammar and spelling

• Proper punctuation

Maximum size: With the wings folded in, the Display Board can only take 24” of table space. However, you are allowed to open up the wings during your Judging Circle presentation.

Your Display Board MUST contain the following information in one consolidated place on the poster:

• Student(s) Name(s)

• Project Name

• Student(s) Grade(s)

• Student(s) School

• School City, State

• Preferred Industry-Focused Award Category (e.g. Telecommunications)

• Patent Status (three options: None, Under Counsel, or Patent Pending)

Students should note “Patent Pending” on their posters for Patent Status only if a provisional or non- provisional patent application has been officially filed with the USPTO. If you are currently represented by an attorney or patent agent (pro bono or otherwise), then mark “Under Counsel.” It is possible to be both “Under Counsel” and “Patent Pending”, or just “Under Counsel”, or just “Patent Pending” (if you did the filing yourself).

You might also want to add this information:

• Images showing you building or testing

• How the invention was made

• How the invention is used

• The biography of the inventor

• Text which supports and explains any pictures, drawings, charts, etc.

• What scientific principles were used in your invention? (e.g. buoyancy, heat transfer)

• What engineering disciplines were used in your invention? (e.g. electronics, optics)

• Testimonials from users, research results

• Any other information about the invention that will help explain it, what it does, or why it is good

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Practicing What You Will Say About Your Invention (Communicating)

19. Be prepared to answer questions. Here are some questions that you might be asked in the Judging Circle by the judges or fellow students. To help you prepare, you might want to write down some of the important parts of your answers so that you have them when you practice giving your presentation.

• How did you come up with the idea for this invention?

I decided to find a way to make exercise more educational and fun. Guidelines from the Department of Health and Human Services say that children and adolescents age 6 and older need at least an hour a day of physical activity. Otherwise, bones and muscle will not develop properly. Exercise is tedious and will become boring.

According to the 2017 Youth Risk Behavior Surveillance System (YRBSS), 14.8% of high school students had obesity and an additional 15.6% were overweight. Education is important for kids 6 and older. The global game-based learning market was worth around US$ 2.4 Billion in 2018(1). Also Kids are spending a lot of time playing games, watching tv or using Ipads and phones and televisions. I did makret survey, researched on the internet, There is no game based learning product in the market that promotes fitness in kids K-12

• What people, situations, or conditions does this problem affect?

**Obesity, Kids spending a lot of time on Ipads, Phones and computer screens, Kids are not exercising as much.**

• How did you think up your solution to the problem?

I researched, talked to my peers, visiting the gaming store and talked to my mentor.

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• Where did you get the materials for the invention?

At home

• Who helped you build the invention and what did they help you do?

I did it and my mentor helped me learn the coding language.

• Are there other, better materials you could have used that would improve the invention?

Not that I can think of.

• Who has used your invention and what did they think about it?

My friends have used it. They liked it a lot. My friends who do not exercise much are more likely to use the product. Also kids who exercise less than 3 hours per day are more likely to use the product.

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• What changes might you want to make to your invention?

I would like to integrate it with apple watch and other Fitbit type brands. Also have an android version of it to reach to a bigger market.

20. Be proud of what you have done. You will use the problem-solving and communication skills you have gained here throughout your life and career. Congratulations on what you’ve done!

Blank Page(s)

These blank pages are available for you to add anything to your Invention Log that will help explain what you did, how you did it, and what the results were. This could include drawings, calculations, descriptions, test results, etc. Multiple copies of this page can be inserted anywhere you want in the Invention Log.

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