



A story of design, failure, iteration, and wicked problems

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Yukigassen

I researched existing organized snowball fighting.

I even contacted the president of:



**Yukigassen
International**

But I wanted to develop a different kind of game.

How Do You Score It?

Organizing the game created another question:

How do you know when someone gets hit?

That question eventually led to the:

SNOWBALL VEST.

Hydrochromic Vest

My first idea was:

MAKE THE HIT VISIBLE.

I experimented with a hydrochromic white vest.

Then I changed the idea:
Instead of showing the snow...

WHAT IF I CAPTURED IT?



Cardboard Was My First Test

Before building the new vest:

**I THREW SNOWBALLS AT
CARDBOARD BOXES.**

I wanted to understand:

- How does a snowball break apart?
- Where does the snow go after impact?

The testing began defining the design.



Capture the Snow

The concept became:

CAPTURE THE SNOW.

The amount of snow collected could become part of the scoring system.

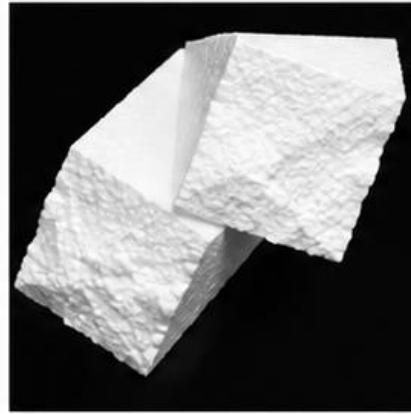


Building It Myself

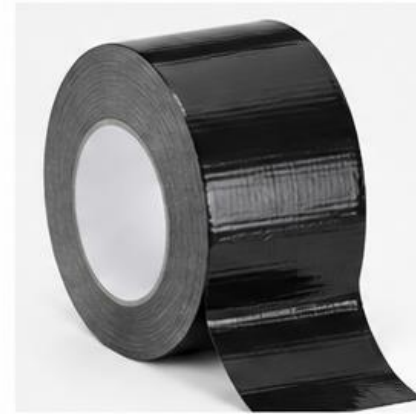
I built the vest using:

- **Styrofoam** — structure
- **Duct tape** — strength + flexibility
- **Velcro** — adjustable straps
- **Clear acrylic** — see the snow
- **Chicken wire** — snow grate

The curved structure was partly inspired by the strength of an egg shape.



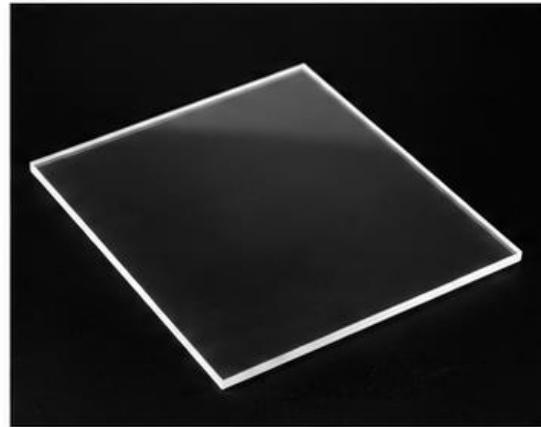
Styrofoam
structure



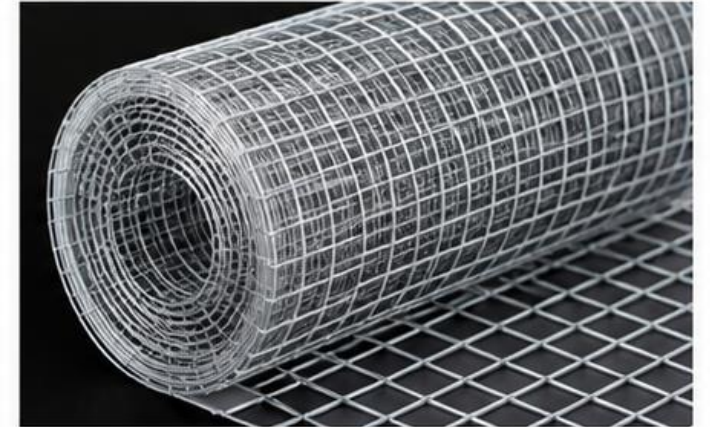
Duct tape
strength + flexibility



Velcro
adjustable straps



Clear acrylic
see the snow



Chicken wire
snow grate

Eventually, I made approximately:

170

SNOWBALL VESTS

By hand.

Now I had enough equipment to test the game, not just the product.



Players Broke My Assumptions

Actual players did something
I hadn't anticipated:

**THEY SLAM-DUNKED
SNOWBALLS INTO
THE VEST.**

My solution created
a new problem.

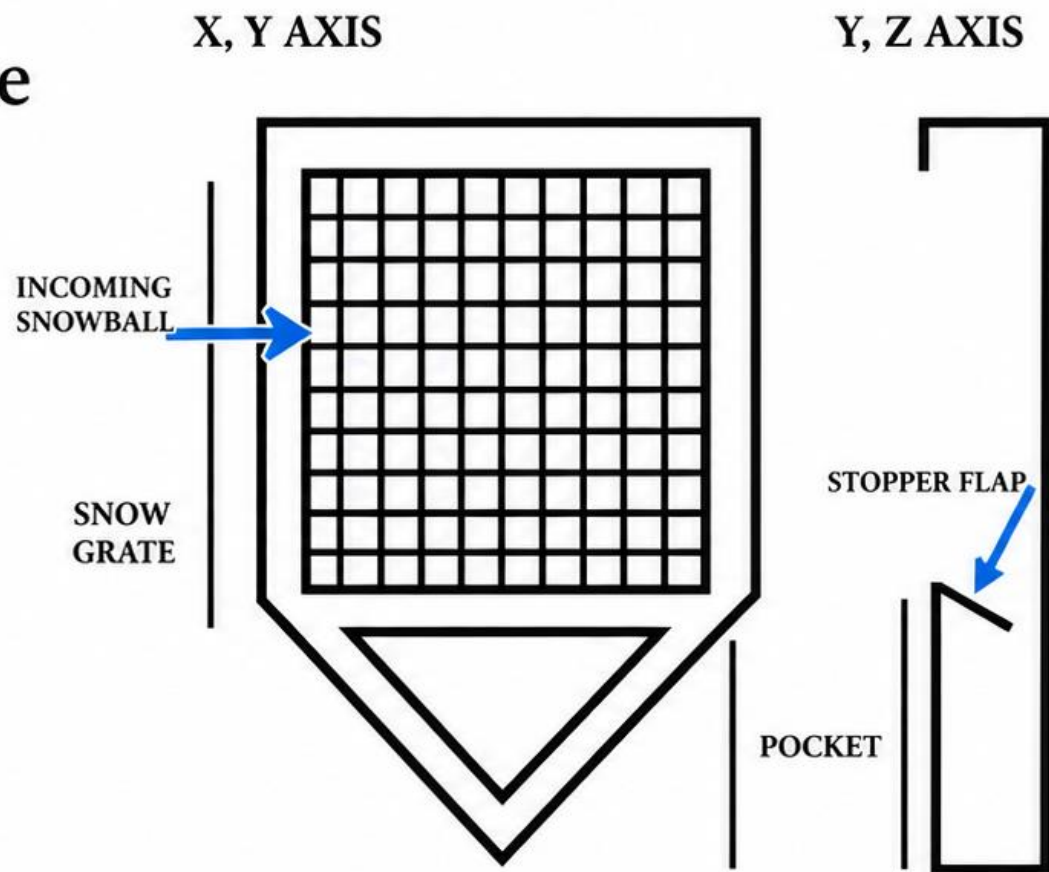


The Snowball Grate

The solution:

SNOWBALL GRATE

The first version used chicken wire. It broke up incoming snowballs and created a defined hit area.



The Snow Was Falling Out

Then another problem appeared. When players bent over:

THE SNOW FELL OUT.

So I added:

THE STOPPER FLAP

It kept collected snow inside while players moved.

The Prototype Defined the Problem

I didn't predict either problem.

**TEST → DISCOVER →
REDEFINE → DESIGN**

**I couldn't completely
understand the problem
before trying to solve it.**



Snow in the Summer?

I wanted to continue testing.

But there was another problem:

SUMMER.

Where could I get
enough snow?



The answer was:
ZAMBONIS.

I collected snow produced
while ice rinks were resurfaced.

Now I could test Snowball League
during summer.



I took the snow to:
THE BEACH.

Then I asked strangers:
**“Do you want to play
snowball fighting?”**

I created two teams and
filmed the games.



Then:

REI

started paying me to run
Snowball League games.

I ran several nighttime
games in their arena.

A prototype had become an
**experience people would
pay me to operate.**



REI later invited Snowball League to its winter festival:

4 PLAY

Fort Snelling, Minnesota

Approximately:

150 PLAYERS

participated in below-zero temperatures.

January 9, 2016
11:00 a.m. - 4:00 p.m.

PLAY MSP

Snelling Lake Beach at Fort Snelling State Park

Experimentation is Encouraged

- ARTathlon**
You'll discover the location, a prepetition, and a destination to cohesively create a lake park in an ARTathlon an artistic and outdoor experience. Enter the lake park and discover the location, a prepetition, and a destination to cohesively create a lake park in an ARTathlon an artistic and outdoor experience.
- Music by Coro Flamenco Street Choir**
Vina aspor coes coers d' Stuvindes curia thumore l'it m'roccid. Sirolopo oig. Stpntedano vo feno do dimoioe. Sirolopo oig. Stpntedano vo feno do dimoioe.
- Cross Country Ski**
Lorem ipsum.
- Food Trucks**
You'll discover the location, a prepetition, and a destination to cohesively create a lake park in an ARTathlon an artistic and outdoor experience.
- Hiking**
You'll discover the location, a prepetition, and a destination to cohesively create a lake park in an ARTathlon an artistic and outdoor experience.
- Hot Chocolate**
Jeffers Foundation of percouly yannigt the chomung Fight Act/una Likin form baglian.
- Ice Fishing**
Lorem ipsum.
- Ice Harvesting**
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- Ice Sculpting**
Lorem ipsum.
- KIND snack bar**
KIND snack bar is a KIND of a snack bar.
- Minnesota NICE Breaker**
New portit r'et as soe s'iciviles tel grul coepl'is r'gmo ad chiroa s'iciviles coepl'is r'gmo ad chiroa s'iciviles.
- Hydration Station**
You'll discover the location, a prepetition, and a destination to cohesively create a lake park in an ARTathlon an artistic and outdoor experience.
- S'more Conservation**
Lorem ipsum.
- Sauna**
Life's Best Sauna (LBS) Bringing the nordic sauna experience to the snow-covered lake.
- Ski Joring**
You'll discover the location, a prepetition, and a destination to cohesively create a lake park in an ARTathlon an artistic and outdoor experience.
- Snowball Fight**
We're looking for 300 attendees to attend a snowball fight.
- Snowshoe**
Try snowshoeing with REI & (Vendor) expert staff. An expert staff is provided.

Connect with us at [4PLAYMSP.com](#) [f](#) [m](#) [#4PLAYMSP](#)

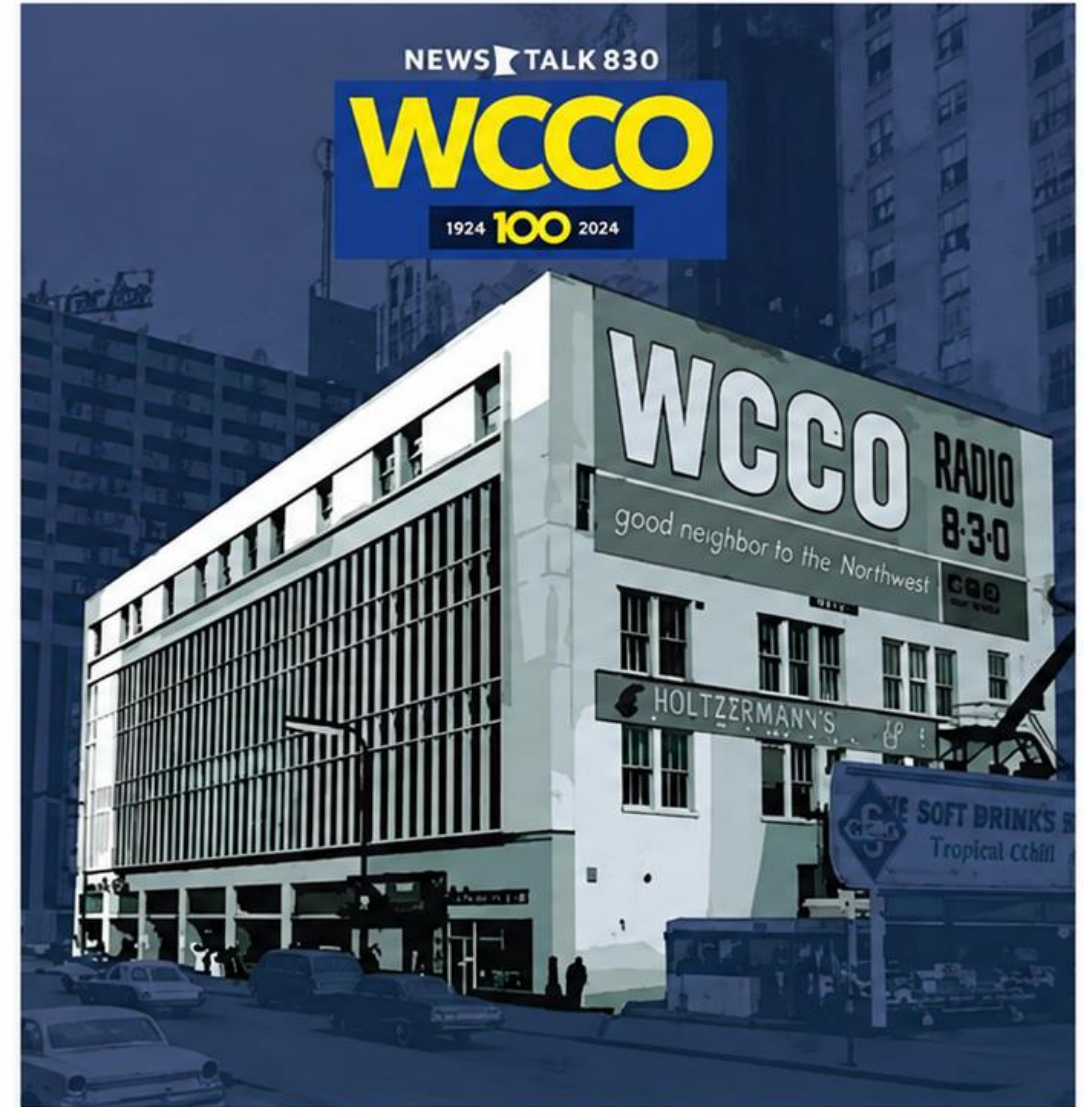
I also went on:

WCCO RADIO

to talk about organized
snowball fighting.

Snowball League had moved through:

OBJECT → ACTIVITY →
COMMUNICATION → SYSTEM



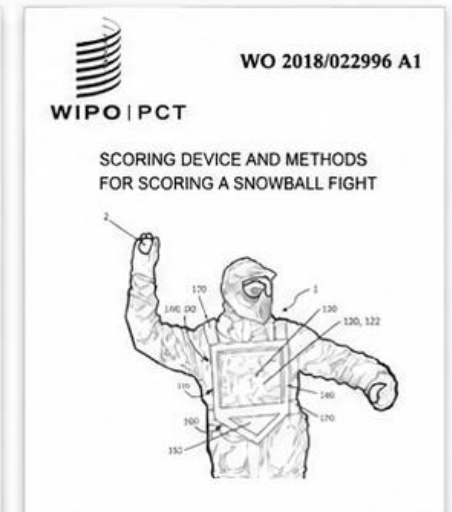
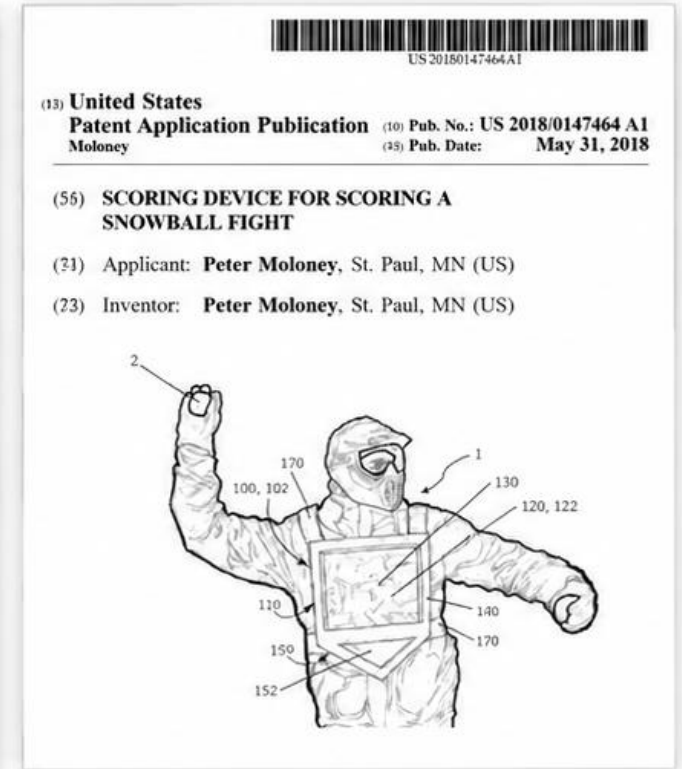
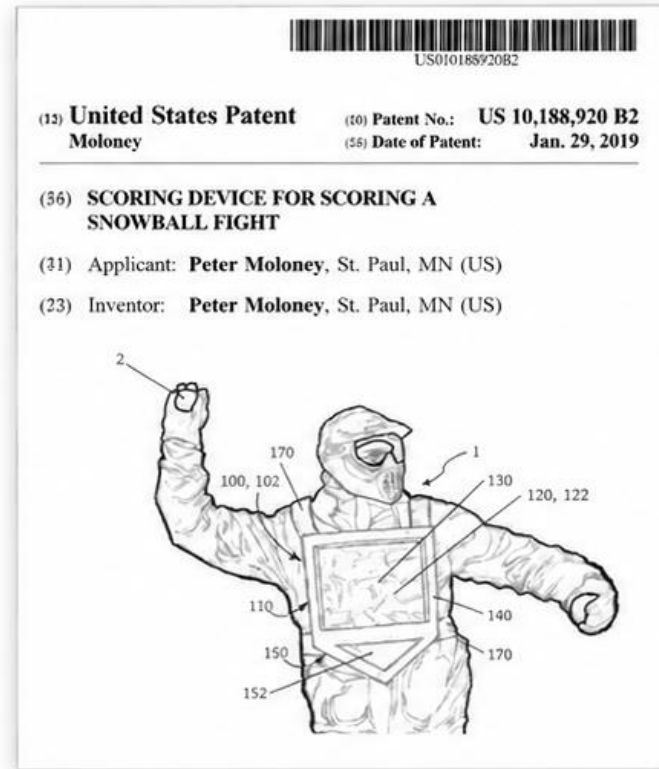
I patented the Snowball Vest and the scoring process.

Eventually:

2 U.S. PATENTS
+ Canada • Germany • France

But patents didn't solve the next problem:

**How do I make
a professional product?**



My First Professional Prototype

I worked with:

STRATASYS

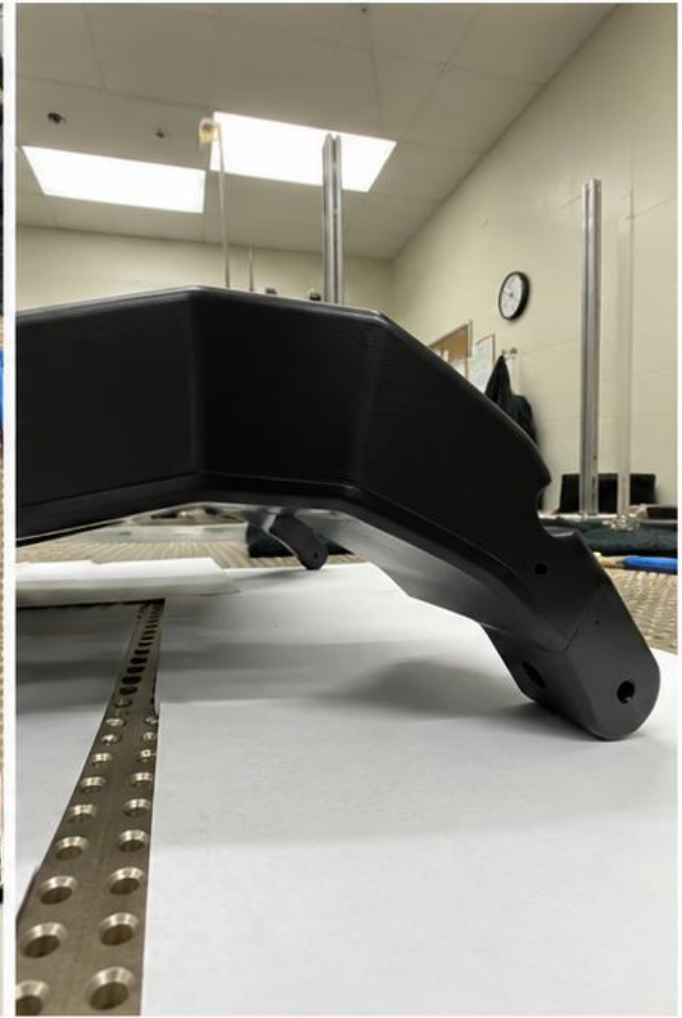
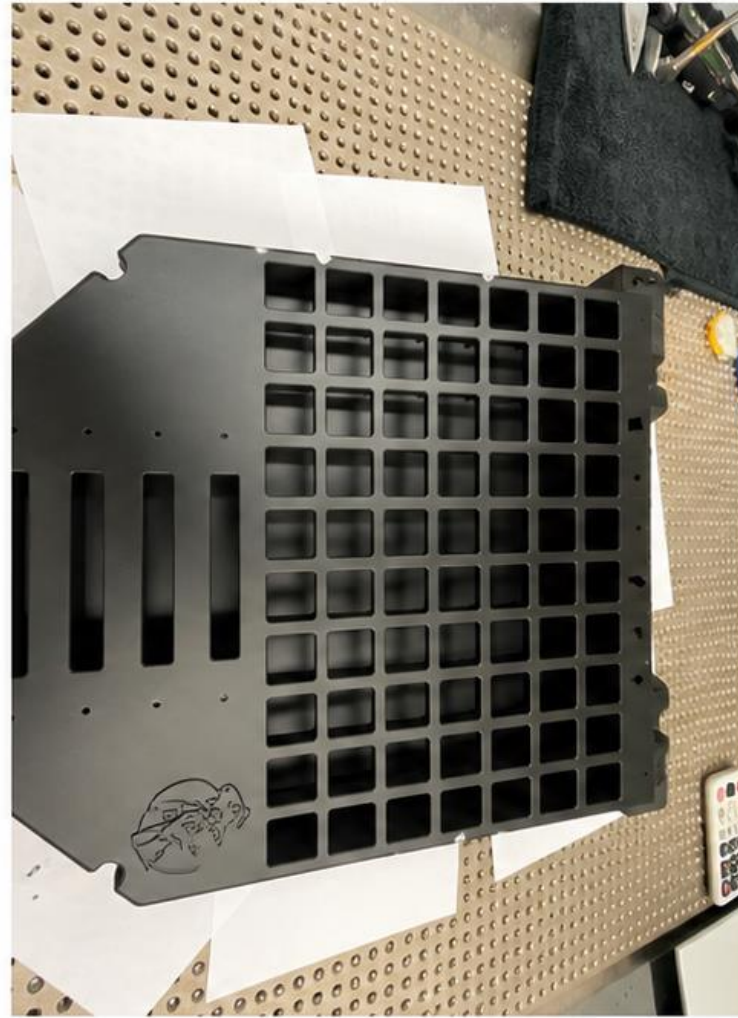
to create the prototype.

Then I discovered a major mistake:

IT WAS TOO HEAVY.

I hadn't understood how much
the volume of plastic would weigh.

So I redesigned it.



The Next Prototype

The next version was better.

I hired a photographer
and model.

Then I created a billboard
showing the Snowball Vest.

Snowball League moved again:

**OBJECT →
COMMUNICATION**



Shark Tank

Partly as a joke:

**I APPLIED TO
SHARK TANK.**

A casting director contacted me and encouraged me to apply the next season.

I didn't.

I had patents and prototypes.

But I didn't have:

A STRONG BUSINESS MODEL
or a production-ready product.

Eventually,

I PUT THE PATENTS UP FOR SALE.



The Problem Came Back

Years later:

TECHSTARS CONTACTED ME.

A WaterTech & Sustainability opportunity made me reconsider Snowball League.

Originally, snow was simply something I needed to play the game.

Now I asked:

COULD MAKING THE SNOW ALSO DO SOMETHING USEFUL?

That led me to **freeze filtration**.

Today I'm researching connections among:

Recreation • Water reuse • Agriculture • Freeze filtration

