

Sir Stanley's Well Rounded Adventure

SENIOR DESIGN AY 2019-20



global
FROG
GAMES

Team Members



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Outline

- Our Client
- The Problem
- The Goal
- Our Solution
- Demo
- What We Learned

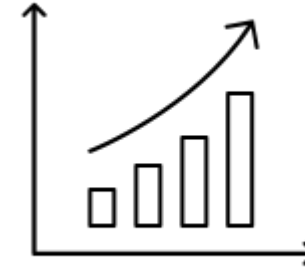
Our Client

- Professor Samantha Davis
 - Associate Professor in the Department of Nutritional Sciences
 - Works with Sir Stanley Matthews Coaching Foundation
- Sir Stanley Matthews Coaching Foundation
 - Giving opportunities to kids to play sports
 - Inspiring kids to to be active and healthy
 - Want our app to be part of their Succeed with Stan Campaign



The Problem (Big Picture)

- Childhood Obesity rates are increasing
- Children lack knowledge for living a healthy lifestyle
- Children are less active now than previous generations



How can we help as software engineers?



The Goal

- Ultimately we are trying to help fight the childhood obesity epidemic. We want to:
 - **Educate** children on topics like nutrition and physical activity
 - Create a mobile game that is **entertaining** for kids who are 6-11 years old
 - **Encourage** kids to get active and to make well informed choices when it comes to their nutrition

Our Solution: Initial Ideas

- Food and activity tracking
- Something similar to Pokemon-Go
- RPG (role playing game) with quests, lots of dialog, and many characters



Our Solution: *Sir Stanley's Well Rounded Adventure*

Our final decision:

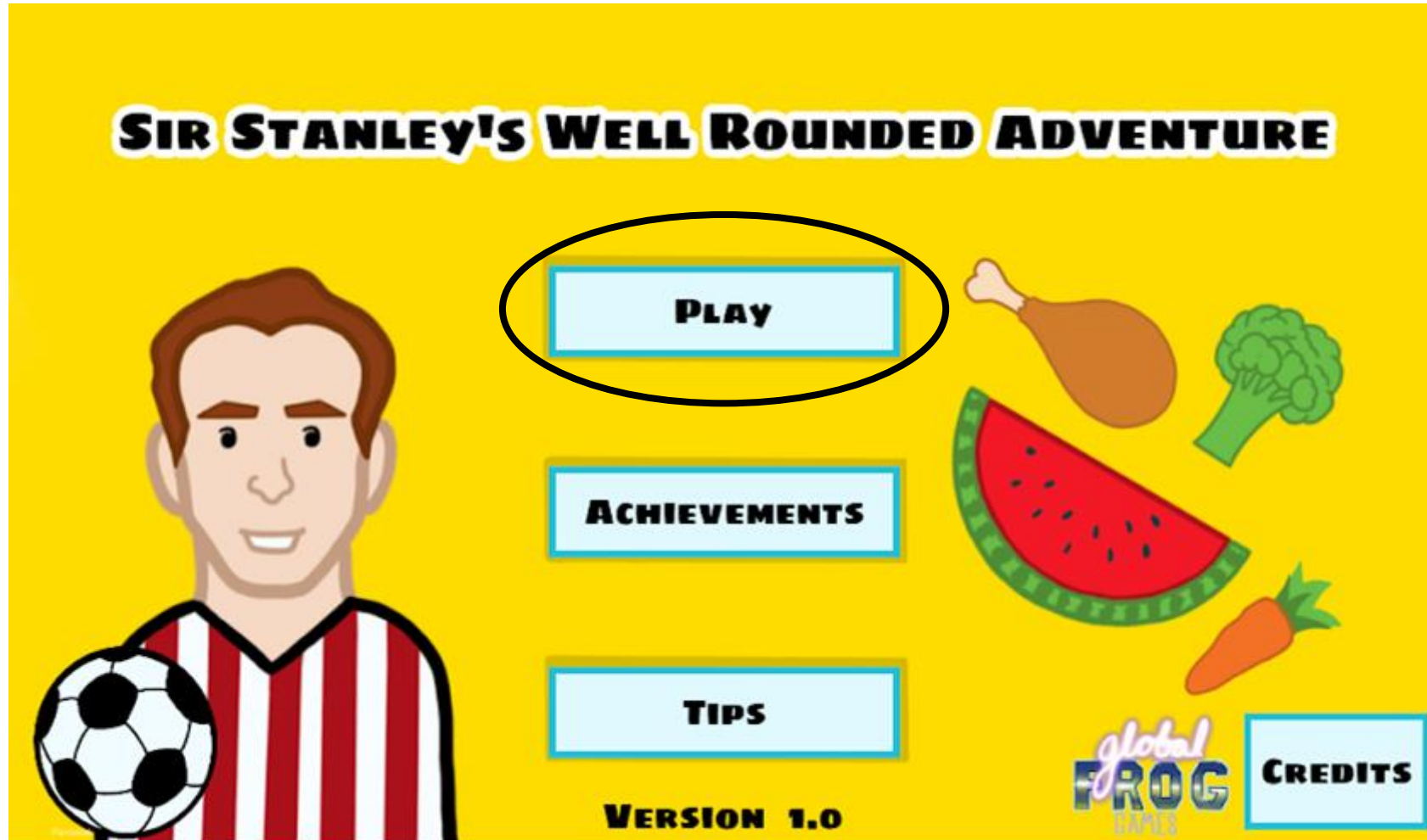
- Several fun mini-games focused on specific topics relating to nutrition or physical activity
- Tutorials will focus both on how to play the minigames and how the information applies to the player's real life
- Achievement system that will motivate players to play the minigames more than once
- Tips that will include real life examples of healthy meals

Our Solution: Technologies

- GODOT - Free, open source, game engine
- It can produce applications that can run on both iOS and Android
- GDScript - Godots built in language (similar to Python)
- JSON
- GIT
- Monday.com
- Slack
- Zoom
- Procreate for the iPad



Title Screen: Play



Play/Map Screen

- Two seasons
 - First Season(Winter) easy difficulty
 - Second Season(Spring) harder difficulty
- Minigames located on map screen
- Various locations
 - Soccer field
 - Food market
 - Recreation center



Stan's Snacks

Stan's snacks is one of the 5 base minigames, it has two level difficulties

- **Goal** - educate players on the categories and properties of various foods
- **Level 1** - select whether the displayed food is either a fruit or vegetable
- **Level 2** - select which macronutrient is highest in the displayed food.



SCORE: 0

2:0



OATS



PROTEIN

FAT

CARB

Falling Foods

Food is falling, and you must catch the food items to build a balanced meal!

- **Goal** - Educate players on building a healthy and balanced meal
- **Level 1** - Try to catch as many foods as possible, learn the different macronutrients and groupings of these foods
- **Level 2** - Catch a balanced meal (one of each type in any order) to gain a multiplier bonus to your score
- **Challenges**
 - Designing mechanism for loading in food types
 - Tracking when a player starts to catch a “balanced meal”



TOTAL SCORE: 4

VEGETABLES: 2 ✓

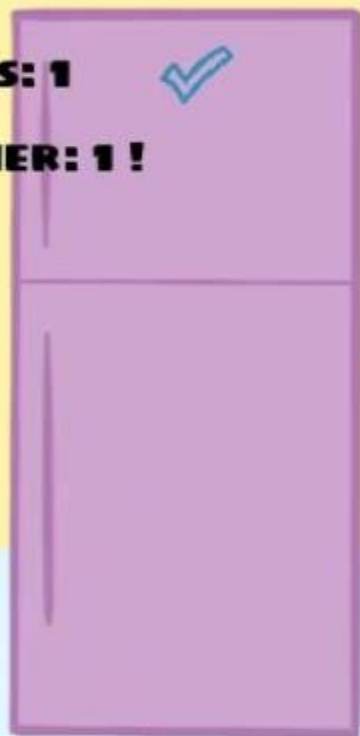
FRUITS: 0

CARBS: 1

PROTEINS: 1 ✓

MULTIPLIER: 1 !

51:3



Goalie Shootout

Goalie Shootout is a minigame that where the player tries to score as many goals as they can in the amount of time given.

- **Goal** - Educate players on ways to get active and have fun.
- **Level 1 & 2** - Level one features one goalie and level two features a goalie and a extra defender.
- **Challenges** - Developing a fun game that will educate the player about physical activity.



BACK

SIR STANLEY'S GOALIE SHOOTOUT 2



HIGHSCORE: 0

BACK

PLAY

Color Categories

Color Categories is a minigame designed to teach children about how certain nutrients can be associated with the color of the fruit/vegetable.

- **Goal** - Educate players on the relationship between nutrients and colors
- **Challenges**
 - Selecting foods with consistent colors/nutrient matches so as not to confuse the children



SCORE: 0



COLOR CATEGORIES

FINISH

FRUIT AND VEGETABLES HAVE A VARIETY OF VITAMINS WHICH MAKES IT IMPORTANT TO EAT A VARIETY OF DIFFERENT FRUITS AND VEGETABLES. A GOOD RULE OF THUMB IS TO “EAT THE RAINBOW”.

Goalie Defender

Goalie Defender is a minigame where the player acts as the defender and tries to block as many goals as possible.

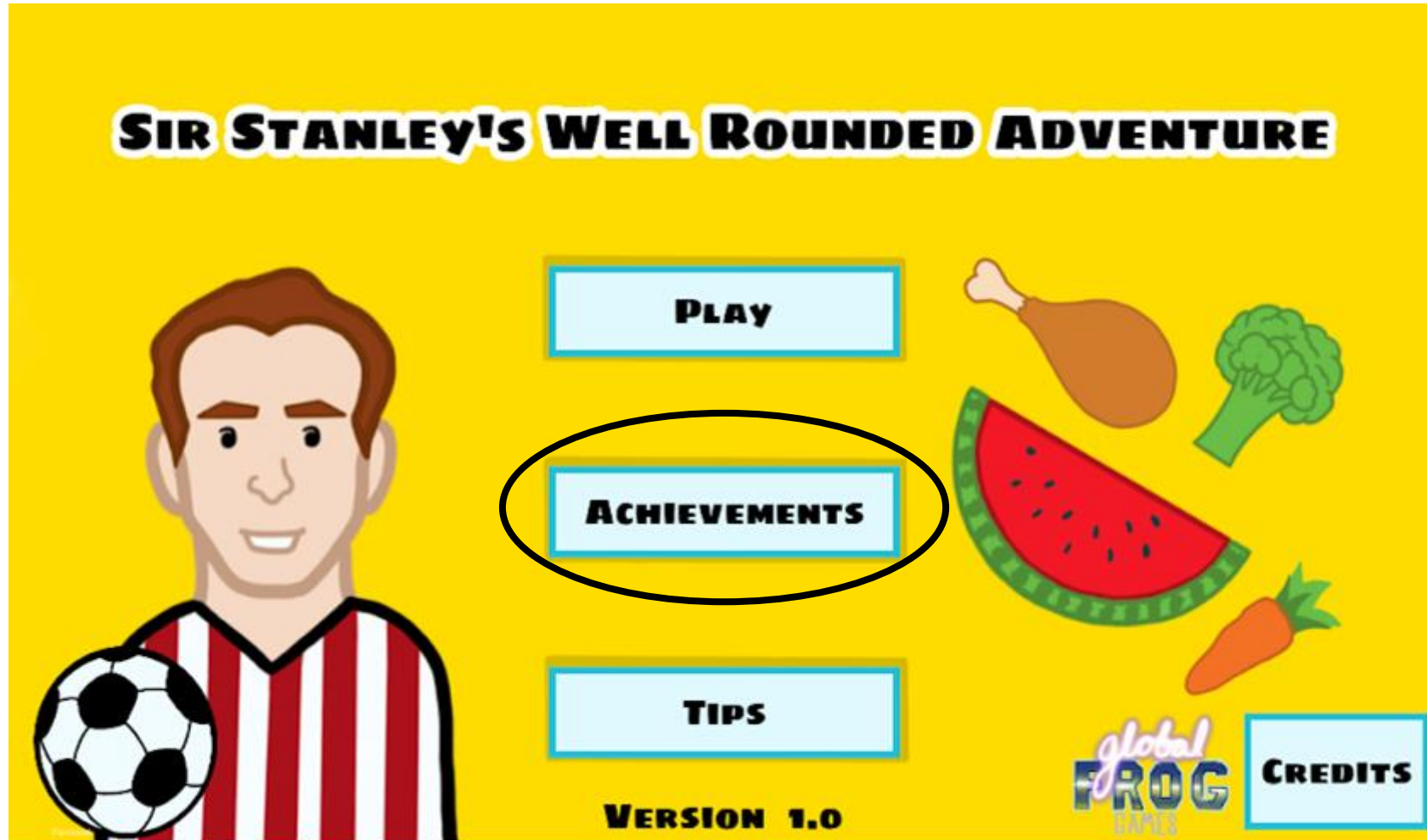
- **Goal** - Educate players on ways to get active and have fun.
 - This minigame plays as the opposite of goalie shootout to show that there are many different ways to get active and be healthy.
- **Challenges** - There were a significant amount of bugs that had to be fixed so this minigame ran nicely.



BLOCKED: 28



Title Screen: Achievements



Achievements

The Achievements Page can be reached from the Title Screen. They provide “accomplishments” to encourage the child to play more.

- **Displays name of achievement and if unlocked**
- **Once clicked,**
 - **Shows full description of achievement**



SIR STANLEY'S WELL ROUNDED ADVENTURE



PLAY

ACHIEVEMENTS

TIPS

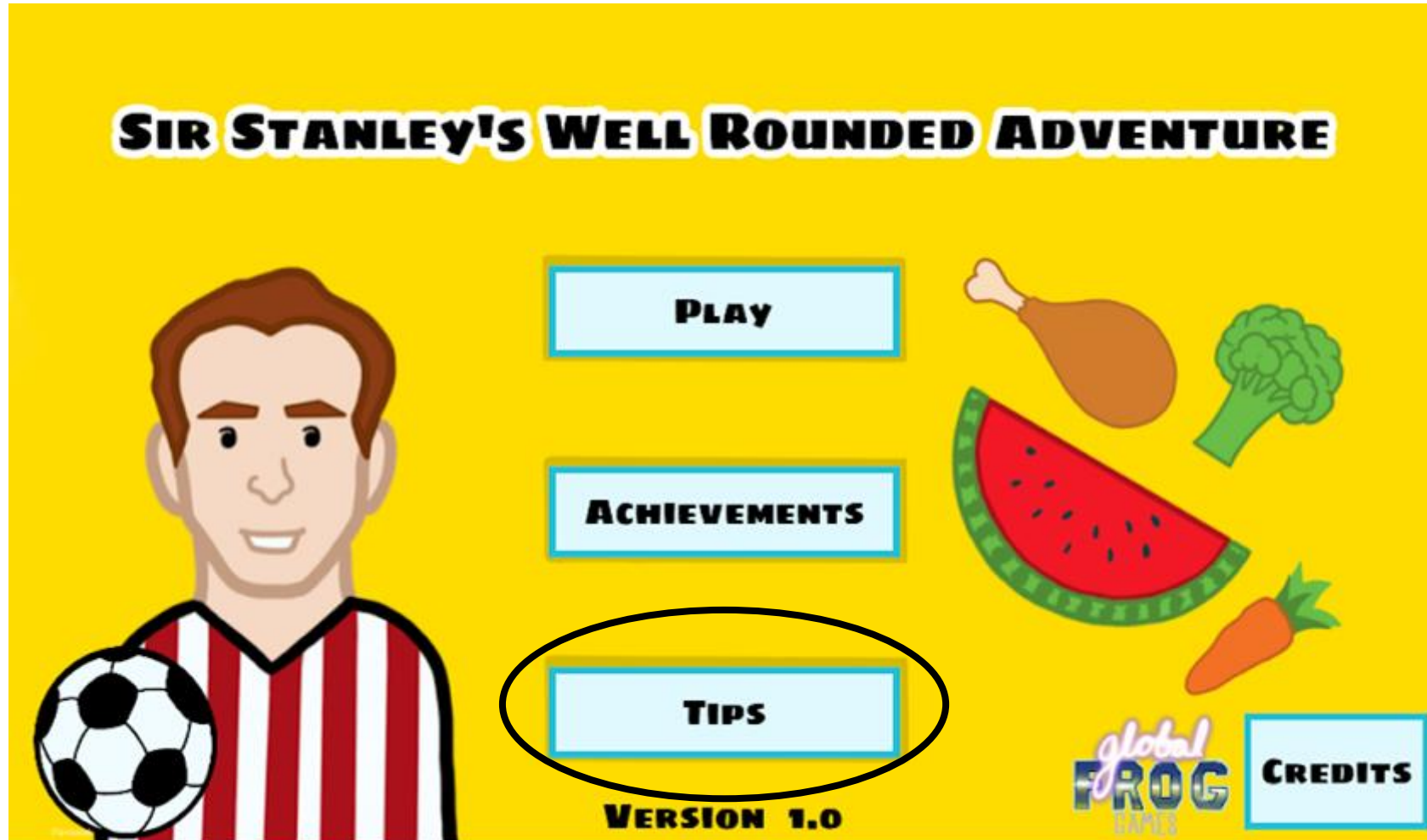
VERSION 1.0



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Title Screen: Tips



Tips

The Tips screen can be found on the Main menu of the game. Here you'll find all sorts of useful health and nutrition facts and information.

- **Categorized by relation to minigame**
 - Foods to eat when you're playing sports e.g. Football/Soccer
- **Displays preview of minigame**
 - Further reinforces connection between activities nutrition



STAN'S SNACKS 1

YOU MAY REMEMBER THAT FRUITS AND VEGETABLES ARE AN IMPORTANT PART OF A BALANCED DIET BECAUSE THEY GIVE YOU ENERGY, VITAMINS, AND FIBRE. DO YOU KNOW WHICH OF THESE FOODS ARE A FRUIT OR VEGETABLE? SOME OF THEM ARE TRICKY!

FRUITS--APPLE, STRAWBERRIES, TANGERINE, ORANGES, LEMON, LIME, PEAR, PEACH, APRICOT, PLUM, CHERRY, GRAPE, WATERMELON, MELON, PINEAPPLE, MANGO, BANANA, POMEGRANATE, PAPAYA, FIGS, RAISINS,



BACK

Challenges/What We Learned

- GitHub
 - .import files
 - Merging - some conflicts were not being shown (.tscn files)
- Godot
 - Not much experience - Pair programming and show and tell
 - Some discrete bugs with the engine made for some big problems
- Resources
 - We ended up making our own art for style consistency
 - Music/sound and understanding the licencing



Future Plans

- Handing the project off to TCU
- Possibility of furthering development in future semesters.
- Eventual hope is to have it published on app store and Google Play store
- Pilot the application to schools associated with Sir Stanley Matthews Coaching Foundation

Acknowledgements

- Professor Davis and her nutrition students
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