[Playdom]
Peanut Butter and Jelly Sandwich

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Introduction

With the invention of peanut butter in 1890 and sliced bread in 1928 the 'synergy of spreads' also known as a PB&J or peanut butter and jelly sandwich soon found itself a staple of American children diets. Currently there are many sources for instructions in the construction of a PB&J such as:

www.wikihow.com/Make-a-Peanut-Butter-and-Jelly-Sandwich A vague text and image instruction manual
http://www.youtube.com/watch?v=hZjqqbwgesw An instructional video accompanied with Beatles music.

These roadmaps provide rudimentary guidance in the completion of a standard PB&J. The goal of this PB&J implementation is provide a customized user relevant PB&J, delivering nourishment and satisfaction to the end client.

1.1 Purpose

This PB&J should act as a mid-day or lunch nutrition source (for nutrition facts see section 2.3.1) which in coordination with a balanced diet will help provide its consumer with essential nutrients and minerals.

The primary users of this sandwich will be:

1. Sandwich maker
2. Sandwich eater

Overall description

The peanut butter and jelly sandwich is intended to fulfill hunger needs of the end user. It may also act as a status symbol or mark of independence. While there are many social and financial repercussions for the end user in the presence of the PB&J, it is primarily intended to perform these 2 functions:

- Act as low cost alternative to externally based food sources.
- Fulfill mid day hunger.

2.1 Product perspective

This solution will be independent; every step of the solution will be completed in house.

2.1.1 Use scenario

The sandwich will be interacted with in two main functions, namely as a creation (by maker) and as a stomach filler (by eater).

2.1.1.1 Eater scenario:

Playdom employee (sandwich eater) arrives at work at 8am and at around noon starts to feel a bit weak and notices a pain in his stomach. Remembering an employee orientation on the occurrence of such events, the employee then visits the site:

http://www.playdominterview.com/blog

and prints out this specification. The Playdom employee then delivers this document to a food developer (sandwich maker) and awaits nourishment. After a short period of time a PB&J appears and is consumed by the Playdom employee, who then returns to work.

2.1.1.2 Maker scenario:

After receiving this document, from a seemingly hungry employee (sandwich eater) the food developer (sandwich maker) reviews its contents, and while desirous to re-read the exciting document, is compelled by the corporate manifesto to make a peanut butter and jelly sandwich as per the spec definition. The food developer then gives the completed sandwich to the employee, and caters to the next employee.

2.1.2 User characteristics

There are essentially 2 distinct user types:

1. Those who build the sandwich (sandwich makers & chefs)
2. Those who eat the sandwich (employee)

For the first user type; basic reading and coordination skills are required, while the second must be hungry, have a modern browser, web connection and a printer.

2.2 Product component

There are a few essential components of this peanut butter and jelly sandwich, namely peanut butter, jelly and bread. Details on these components are found in the following sections.

2.2.1 Peanut butter

A minimum of 2 oz of medium chunky Skippy brand peanut butter (product id #2535621) are required to make a whole sandwich. It is common for peanut butter to come in 14 oz glass jars as seen packaged below.

2.2.1 Jelly

A minimum of 2 oz of Welsh brand grape jelly (product id #890238) are required to make a whole sandwich. It is common for this jelly to come in 14 oz glass jars as seen packaged below.

2.2.3 Bread

Two (2) slices of Wonder brand potato bread are required to make a whole sandwich. It is common to purchase a loaf of bread containing 12 usable slices as seen packaged below. A usable slice is a slice from a loaf, not found on the either end, and not containing discolorations or holes greater than 2 mm. As the end slices cannot be used for sandwich development it is recommended that they be fed to wayward seagulls.

2.3 Product constraints

This solution has the following limitations:

- The sandwich can only be consumed orally; attempts to inject intravenously will fail.
- For maximum freshness the sandwich must be eaten within 1 hour of completion unless it is preserved.
- This process is only intended for construction of one whole sandwich at a time.

2.3.1 User interfaces

The appearance of the sandwich is extremely important to the end user. The mating of uneven slices, bread discolorations, sloppy application of spreads resulting in ooze, even the environment in which the sandwich is displayed are all important to user acceptance (consumption).

2.3.2 Hardware interfaces

The hardware interfaces are only encountered by the sandwich developer and are detailed below.

2.3.2.1 Knife:

A sanitary butter type knife is to be used when spreading the jelly, while a separate sanitary knife is used to spread the peanut butter.

2.3.2.2 Peanut butter jar:

The Skippy brand jar preserves the peanut butter inside. The top must be twisted with 8lb/ft force in a clock wise motion to open and 7lb/ft force counter clockwise to close.

2.3.2.3 Jelly jar:

The Welch brand jar preserves the peanut butter inside. The top must be twisted with 10lb/ft force in a clock wise motion to open and 9lb/ft force counter clockwise to close.

2.3.2.4 Counter top:

This is the sanitary surface upon which sandwich development occurs.

2.3.2.5 Cleaning supplies:

The following cleaning supplies are also necessary to insure long term sanitary product development:

- An anti-bacterial spray.
- Cleaning towels.
- Sanitary plastic gloves.

2.3.2.6 Heart rate monitor:

An active RFID heart rate monitor is standard issue to all employees; this monitor will be of interest when determining the success metric of the sandwich.

2.3.6 Assumptions and dependencies

The following assumptions are built in to this analysis:

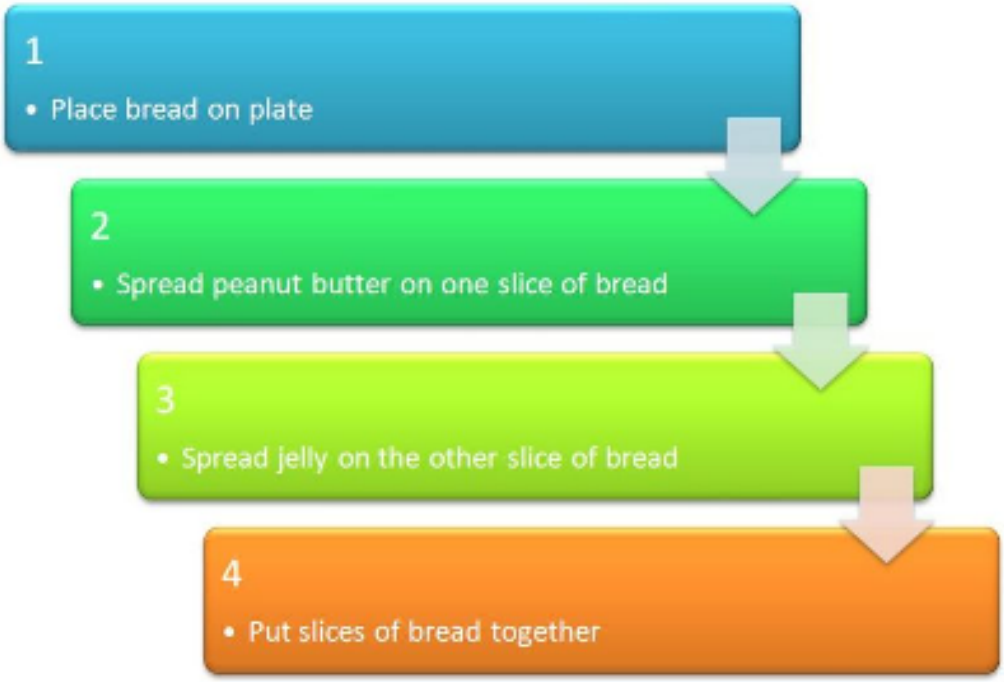
- For optimal user acceptance, it is assumed that products from jelly, peanut butter and bread providers are of uniform quality, and have not reached expiration dates.
- It is assumed that both the sandwich maker, sandwich consumer and preparation environment are sanitary.
- Utilization of existing active RFID heart rate monitoring system and reporting handled by analytics department.

Specific requirements

The peanut butter and jelly sandwich must be edible and essentially contain both and only peanut butter and jelly between two slices of bread. The components of this development have been previously defined and must be strictly adhered to. The following section provides a workflow involving the aforementioned components.

3.1 Flowchart

The flow chart below provides a high level view on the development of the peanut butter and jelly sandwich. More detailed workflows are provided in the following sections.

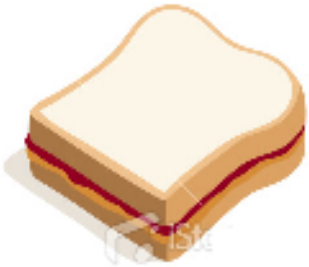


3.1.1 Terse Pseudo Algorithm

After receiving a request for a peanut butter and jelly sandwich, a sandwich developer may follow the pseudo algorithm below. *Please note: the definition of this process is only intended to provide insight into how the sandwich can be made. It is at the developer's discretion on how exactly to arrive at the same outcome.*

0. Put sanitary gloves on hands
1. Remove 2 slices of bread from package.
2. Place 2 slices of bread on table next to each other.
3. Open the jar of peanut butter.
4. Pick up knife.
5. Insert the knife into jar and extract peanut butter.
6. Spread peanut butter evenly, on one side of one slice of bread.
7. Repeat steps 5 and 6 until a sufficient amount of peanut butter is on the bread.
8. Open jar of jelly.

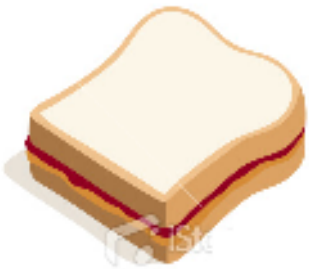
9. Insert the knife into jar and extract jelly.
10. Spread jelly evenly on one side of the other slice of bread.
11. Repeat steps 9 and 10 until a sufficient amount of jelly is on the bread.
12. Put down knife.
13. Pick up both pieces of bread.
14. Place the 2 pieces of bread together, PB & J sides together resulting in a sandwich resembling the image below:



3.1.2 Human centric pseudo algorithm

After receiving a request for a peanut butter and jelly sandwich a sandwich developer may follow the pseudo algorithm below. *Please note: the definition of this process is only intended to provide insight into how the sandwich can be made. It is at the developer's discretion on how exactly to arrive at the same outcome.*

Put clean gloves on hands, now first, place a paper plate on the kitchen counter. Then, get a loaf of white bread and a jar of peanut butter from the pantry, as well as a jar of grape jelly from the refrigerator, and place all of these things on the kitchen counter. Next, take two slices of white bread out of the bread bag, and put them on the paper plate. Take a butter knife out of the kitchen drawer, and place it on the paper plate as well. Open the peanut butter jar, and use the butter knife to remove some peanut butter; proceed to butter one slice of bread. Afterwards, open the jelly jar, take some jelly out with the knife, and smear some jelly onto the other slice. Place one slice of bread onto the other, so that the two sides with condiments are facing each other. This product should resemble the image below. Once complete the sandwich is to be given to the hungry employee**.**



3.2.3 PB&J Basic Nutrition Facts

Nutrition Facts
Serving Size: 1 Sandwich

Amount per Serving

Calories 300 Calories from Fat 55

	% Daily Value *
Total Fat 11g	**17%**
Saturated Fat 1.75g	**9%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 360mg	**15%**
Total Carbohydrate 36g	**12%**
Dietary Fiber 5g	**20%**
Sugars 13.5g	
Protein 11.5g	**23%**

Vitamin A	**0%**
Vitamin C	**0%**
Calcium	**2%**
Iron	**10%**
Thiamin (B1)	**12%**
Riboflavin (B2)	**8%**
Niacin (B3)	**20.5%**
Vitamin B6	**3%**
Folic Acid (Folate)	**11%**
Magnesium	**7.5%**
Zinc	**3%**
Copper	**5%**

Est. Percent of Calories from:
Fat 33.0% **Carbs** 48.0%
Protein 15.3%

3.2.3 Out of Scope

The following features are important for consideration with respect to this solution, however are not considered within the scope of this implementation:

- Definition of balanced diet.
- This spec is only concerned with the sandwich up to the point of consumption.
- Digested and or incompletely consumed sandwiches are out of scope.
- Sourcing of ingredients.
- Employee orientation training for hunger scenarios in the workplace.
- Choking or other such non approved scenarios involving sandwich.
- Locating wayward seagulls.
- Building a sandwich with bread or spread providers other that those identified.
- Advanced sandwich preservation, i.e. vacuum bags, freezing, etc…

- Popular variations on the sandwich such as honey, toasting, vegemite, Nutella, etc...
- Success metrics and heart rate monitoring.

Ownership

This solution will be designed, developed, and implemented by the Catering Services Team. Success metrics, legal, procurement, and waste concerns are to be handled by the Executive Leadership Team.

Addendum

The following is a list of questions posed to the customer with respect to this solution, answers are inline in blue:

- Is the user allergic to anything? No
- Who will be developing the sandwich? (Developer type & attributes) Highly trained sanitary company chef
- What tools does the developer have? i.e. fork, jar opener, table, oven, plates, etc The developer has immediate access to all essential tools
- What is the development environment: is it sanitary? Is it really hot so jam will drip? It's a cool (60 Celsius) sanitary environment
- What kind of jam does the user like? grape
- Does the user like crunchy or smooth peanut butter? Semi crunchy
- What brand of peanut butter? Skippy
- What is the age of the end user? 30
- What type of bread? - i.e. does user have vitamin deficiencies to warrant fortified bread, white, or wheat ok? potato bread
- Which brand of bread? Wonder
- Are there any thickness preferences on the jam, peanut butter layers? .25in +-.1in
- Does the user like crust? Yes
- How do they like it sliced: i.e. vertical, horizontal, diagonal, in fours? diagonal
- How will the end product be deployed to the user? i.e. frozen & bagged for later use, immediate consumption...(don't want that soggy spot in the middle although toasting or correct stacking can assuage this problem) immediate consumption
- How many sandwiches are to be made? As there are different processes if multiple are needed. Only one
- Does the user like the bread toasted before spread application? no
- Are there accessibility concerns around sandwich bagging, or bite size? No
- Does the user have a nontraditional -country specific way of making the sandwich? i.e. with vegemite, raisins, special bread? no
- Are there interaction concerns? Are there certain combinations of food with the sandwich that are less than desirable to the user? no
- What are the primary and secondary use cases for the sandwich? Only one, user orders sandwich and then eats it

- What are the success metrics? Sandwich is eaten, user survives for 24 hours
- What is the project budget? 1.2 million dollars