An exercise in contemplating the wonders of project design, management and life cycle
Mission Goals

- To concoct and consume an exquisite, home made pizza dinner for the three member team.
  - Ingredients must be mutually agreed upon
  - Include up to three toppings distributed across entire pizza
  - Use existing ingredients where possible
  - Leave no trace of our effort following dinner
Expectations

- Extensive research shows that Papa John’s produces one of the best pizza available
  - Toppings evenly distributed
  - Cheese evenly distributed, none burnt on crust, no bubbles
  - Crust is golden brown on top
  - Sauce is consistent throughout
  - Hot when delivered
System Design

- In this case we have a sequential series of phases
  - Phase 1: Select Toppings
  - Phase 2: Search for existing components
  - Phase 3: Procurement of new components
  - Phase 4: Concoct
  - Phase 5: Consumption
  - Phase 6: Cleanup

- The interfaces are simple
  - Phase 1 to Phase 2: A marked up menu
  - Phase 2 to Phase 3: Shopping list
  - Phase 3 to Phase 4: Groceries
  - Phase 4 to Phase 5: Hot Pizza
  - Phase 5 to Phase 6: Dirty plates
Systems contain Subsystems

- Each system contains subsystems and parts
- For example Concoct includes:
  - Dough Mixing Subsystem
    - Mixing Bowl, Electric mixer, Dough ingredients
  - Toppings Subsystem
    - Chopping board, knife, toppings, bowls
  - Cooking Subsystem
    - Pizza pans, oven, hot plate mitten
Basic Design

- **Circular shape**
  - Size selected during fabrication from a finite list TBD during development

- **Ingredients are standardized**
  - Standard pizza dough mix and pizza sauce
  - Mozzarella cheese
  - Three toppings selected from a list TBD during development

- **Use standard layered configuration**
  - Toppings are thinly sliced and cheese is grated
  - Dough is mixed and spread in lightly greased pan
  - Order of layering is then sauce, cheese, toppings
Development

● Determine selection of pizza sizes
  – Set by Cooking Subsystem interface
  – Measure length & width of oven and select smaller of the two
  – Locate available pizza pans, measure diameter and reject any larger than oven interface
  – Document possible pizza sizes

● Determine maximum list of toppings
  – Arrange team meeting review of toppings
  – Document list of toppings

● Complete Phase 1 to 2 Interface Control
Document --- Menu
Fabrication

- Review menu: select size and three toppings
- Search kitchen for existing components
  - Ingredients / toppings with age < expiration
  - Located ingredients undergo visual and smell testing
  - Locate Concoct, Consumption and Cleanup hardware
- Complete Phase 2 to 3 ICD – Shopping List
- Run phases 3, 4, & 5 in parallel as possible
  - One member procures new components from store
  - One member prepares available ingredients
  - One member sets table in dining area
- Once new components arrive and table is set all team members participate in phase 4
Fabrication (cont.)

- Verify size of pizza pan from Menu ICD
- Verify prepared set of toppings
  - Compare with specs on Menu ICD
  - Verify thinly sliced
- Preheat oven to 475°F
- Construct layered pizza according to basic design
- Insert pizza into oven for 30 minutes
Fabrication (cont.)

- Test that pizza is finished cooking
  - Crust is golden brown
  - Cheese is fully melted
- Remove from oven slice into nine pieces and serve
- Following dinner clean all components and remove trash
Management

- Team meetings will be held throughout this project
- All team members have agreed to an equal division of labor
- All decision will be unanimous
- Configuration Management Plan
  - Development phase results in a pizza recipe
  - Changes to the recipe by mutual agreement
- Interface Control Plan
  - ICDs are jointly reviewed and changed only by mutual agreement
Work Breakdown Structure

1.0 Management
   1.1 Meetings
   1.2 Configuration Control
   1.3 Interface Control

2.0 Development
   2.1 Select sizes
   2.2 List toppings
   2.3 Review recipes

3.0 Select Toppings

4.0 Search Kitchen
   4.1 Identify ingredients
   4.2 Test ingredients
   4.2 Locate Hardware

5.0 Procurement
   5.1 Drive to/from store
   5.2 Shop

6.0 Concoct
   6.1 Prepare toppings
   6.2 Preheat Oven
   6.3 Verify Menu Specs
   6.4 Layer pizza & Cook

7.0 Consumption
   7.1 Set table
   7.2 Eat dinner

8.0 Cleanup
   8.1 Wash & dry dishes
   8.2 Take trash out
Timeline

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