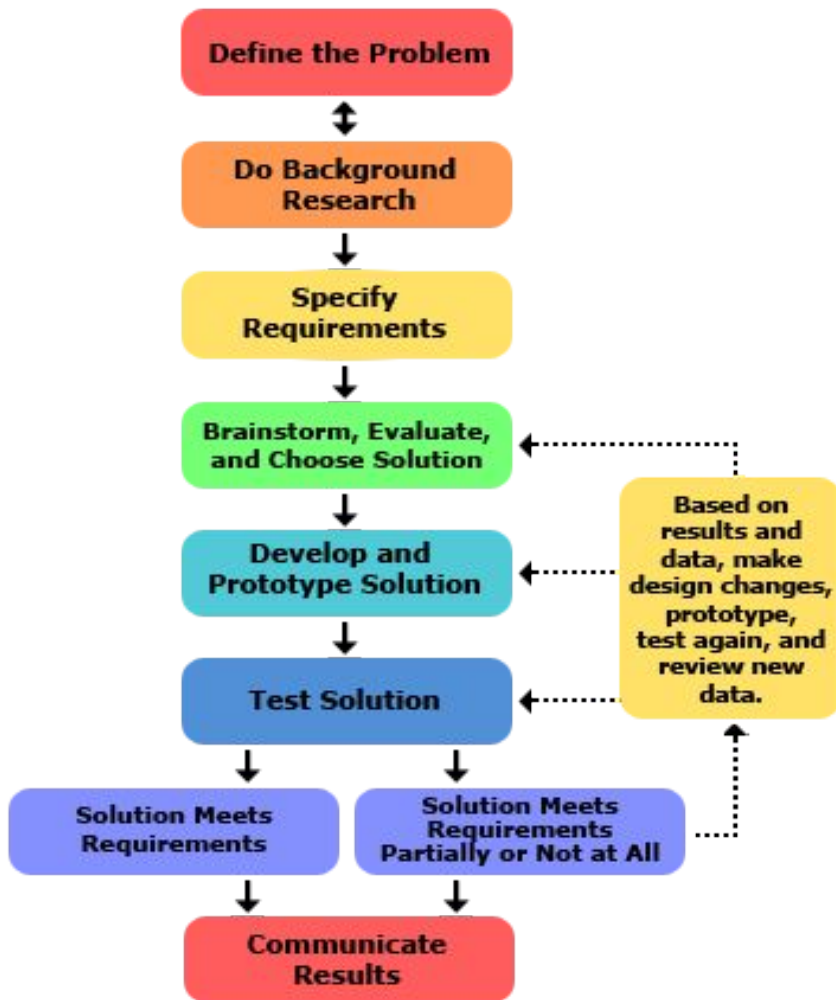# Intro to Project Selection
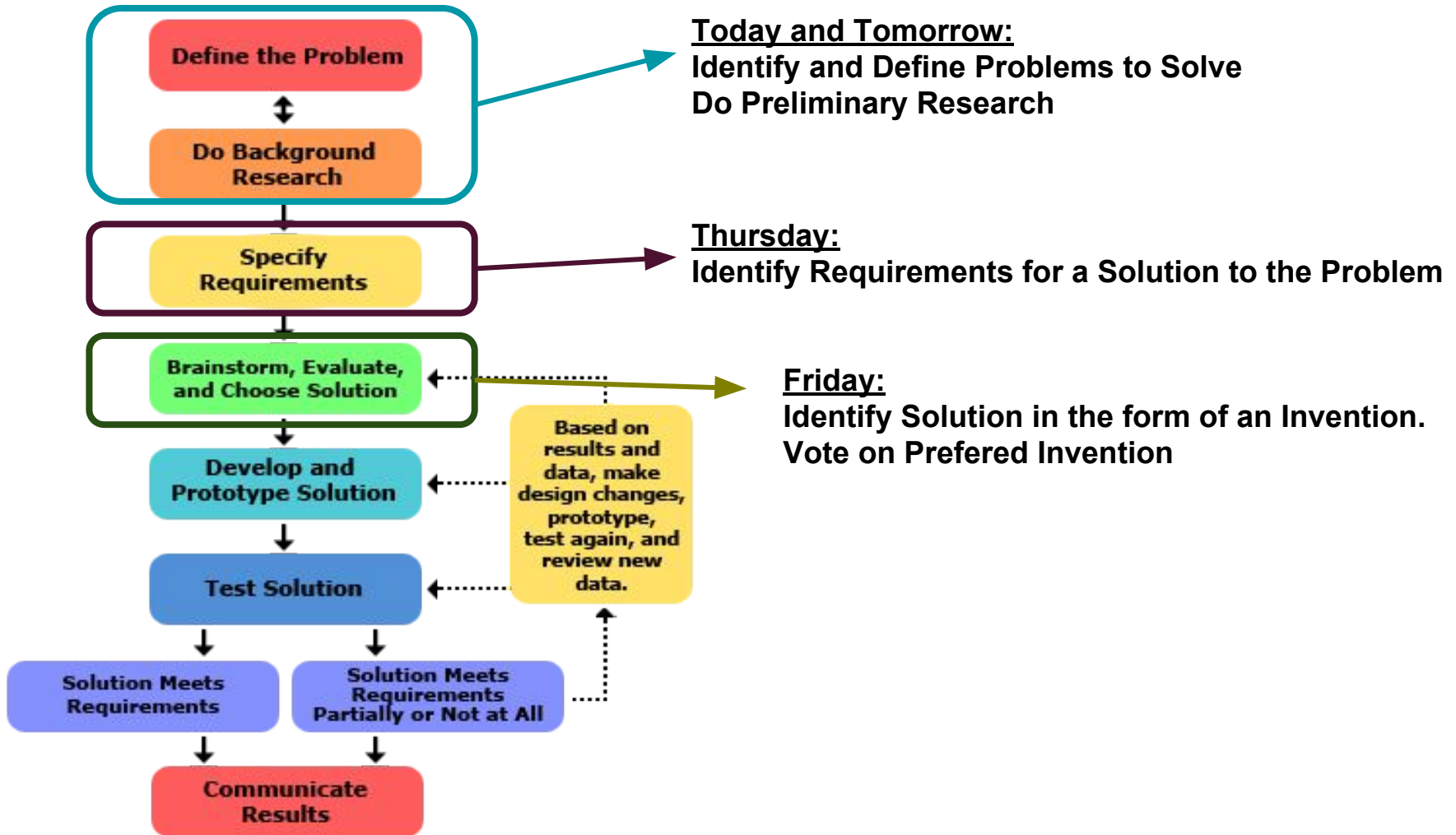
July 2018

Design Process

1. Identify a Problem.
   ex. Hard to reach top shelf
2. Research issue, is there already a solution?
   ex. Step stool exists
3. Could a better solution exist?
   ex. User doesn't have good balance, step stool dangerous
4. What constitutes a solution to said problem?
   ex. Something that enables user to grab things from top shelf without climbing up something. (Constraints)

5. Brainstorm:
   How about a 'Grabber'? Some sort of gripper on an extended handle?

6. Develop prototypes:
   Tongs on a broomstick?
   Attach a Servo Motor?

7. Test
   Mechanism works, doesn't grip well though

8. Iterate (Design, Prototype, Test)
Laser Cut better gripper, add friction pads

Design Process

Today and Tomorrow:
Identify and Define Problems to Solve
Do Preliminary Research

Thursday:
Identify Requirements for a Solution to the Problem

Friday:
Identify Solution in the form of an Invention.
Vote on Prefered Invention

Define the Problem

Do Background Research

Specify Requirements

Brainstorm, Evaluate, and Choose Solution

Develop and Prototype Solution

Based on results and data, make design changes, prototype, test again, and review new data.

Test Solution

Solution Meets Requirements

Solution Meets Requirements Partially or Not at All

Communicate Results

TuNe In

This year, we are looking for inventions that alter peoples' perception of the world around them.

- Inventions that encourage engagement and participation.

- Inventions that bring attention to something you care about.
    - Health
    - Education
    - Politics
    - The Environment
    - Social Justice
    - Community
    - Accessibility

What do you care about?

Think Differently, Engage, Create Something New

Empathize with a bug list -
What problems do *you* Care about?

Reflect on your daily experiences.

Write down all ideas and thoughts throughout each day.

Talk to friends, family, acquaintances, and experts in a given field.

Explore current and emerging technology and products.

Stay aware of current events.

Set aside designated time for reflection and thinking about ideas.

Don't worry about a solution; focus on idea generation. We'll converge later

Divergent thinking   Convergent thinking
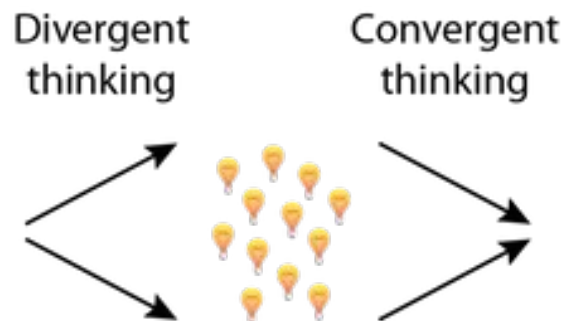
Empathize with a bug list

What bugs you? What bugs your friends and family? What problems does the community face?

A bug list is a tool for collecting ideas

1. What problems do your clients face?
2. How can problems we translated into opportunities?
3. Focus is on the client or end-user: what bugs *them*?

In collecting bugs, embody the learning personas

- Anthropologist – Observant
- Experimenter – Persistent
- Cross-Pollinator – Curious