Let's break down the equation and example for the `_calculateSuccessProbability` function:

Equations

1. **Initial Enemy Strength (E_s):**
   $$E_s = \text{enemyManpower} \times \text{enemySkills}$$

2. **Total Unit Strength (T_u):**
   $$T_u = \sum_{i=1}^{n}(\text{unitManpower}_i \times \text{unitSkills}_i)$$
   Where n is the number of units.

3. **Weapon Effectiveness:**
   For each weapon within range:
   $$\text{Weapon Effectiveness} = \text{weaponBlast}$$
   Track affected enemies based on weapon range and blast radius.

4. **Total Effective Damage:**
   For each affected enemy:
   $$\text{Effective Damage}_j = \text{affectedEnemyStrength}_j - \text{reducedStrength}_j$$
   Where:
   $$\text{reducedStrength}_j = \text{affectedEnemyStrength}_j - \text{damage}_j$$
   And:
   $$\text{Effective Damage}_j = \text{affectedEnemyStrength}_j - \text{reducedStrength}_j$$

5. **Total Effective Damage Calculation:**
   $$\text{Total Effective Damage} = \sum_{j=1}^{m}(\text{Effective Damage}_j)$$
   Where m is the number of affected enemies.

6. **Modified Enemy Strength (E_s'):**
   $$E_s' = E_s - \text{Total Effective Damage}$$
   If $E_s' < 0$:
   $$E_s' = 0$$

7. **Success Probability:**
   $$\text{Success Probability} = \frac{T_u}{T_u + E_s'} \times 100$$

Example Calculation

Let's use the following example data:

Data

- **Enemy Data:**
  - Enemy Manpower: 500
  - Enemy Skills: 4
- **Unit Data:**
  - Unit 1: Manpower = 300, Skills = 5

- Unit 2: Manpower = 200, Skills = 3
- **Weapon Data:**
  - Weapon 1: Range = 1000 meters, Blast = 50
  - Weapon 2: Range = 1500 meters, Blast = 100
- **Weapon and Enemy Positions:**
  - Weapon 1 Position: (0, 0)
  - Weapon 2 Position: (1200, 0)
  - Enemy Position: (500, 0)

Steps

1. **Calculate Initial Enemy Strength (E_s):**

$$E_s = 500 \times 4 = 2000$$

2. **Calculate Total Unit Strength (T_u):**

   For Unit 1:
   $$\text{Unit Strength}_1 = 300 \times 5 = 1500$$

   For Unit 2:
   $$\text{Unit Strength}_2 = 200 \times 3 = 600$$

   Total Unit Strength:
   $$T_u = 1500 + 600 = 2100$$

3. **Calculate Weapon Effectiveness:**

   Weapon 1:
   - Distance to Enemy = 500 meters
   - Weapon Range = 1000 meters (within range)
   - Weapon Blast = 50

   Weapon 2:
   - Distance to Enemy = 1200 meters
   - Weapon Range = 1500 meters (within range)
   - Weapon Blast = 100

   Assume:
   - All enemies are affected by the weapons (simplification).

   Affected Enemies:

- Enemy 1: Manpower = 200

- Enemy 2: Manpower = 150

- Enemy 3: Manpower = 100

Total Effective Damage:
For Weapon 1:
Total Weapon Effectiveness = 50
For Weapon 2:
Total Weapon Effectiveness = 100

Affected Enemies' Strength:
Total Affected Enemies = 200 + 150 + 100 = 450

Effective Damage:
Total Effective Damage:
Total Effective Damage = 450

4. **Calculate Modified Enemy Strength (E'_s):**

$$E'_s = E_s - \text{Total Effective Damage}$$
$$E'_s = 2000 - 450 = 1550$$

5. **Calculate Success Probability:**

$$\text{Success Probability} = \frac{T_u}{T_u + E'_s} \times 100$$
$$\text{Success Probability} = \frac{2100}{2100 + 1550} \times 100$$
$$\text{Success Probability} = \frac{2100}{3650} \times 100 \approx 57.53\%$$

Summary

In this example, the success probability of the units in battle is approximately **57.53%**.