This is about breaking things down.
1. What work items to focus on
2. When things are too big / open-ended, it can be beyond our complexity horizon. Breaking it down brings it into visible

Planning a Project

Prepare
- Where are we at?
- Where are we going?
- What is the next step?

Write a proposal
Clear description of what it will do.
Clear list of features that it will use.
What it uses

What it uses – what devices, what OS versions, what parts, frameworks, classes, concepts,entitlements
Call out what is not covered in appnotes, samples

Project plan / proposal:
- Describe in sufficient detail
- Is it reasonable, acceptable?
- Does the project have sufficient breadth?
- Is it creative enough?

Review:
Receiving criticism
Giving Criticism

Why criticism hurts

Revision
Devise a short plan of what to revise
What to take from the critiques
Prioritizing changes

Optimize:
How can we design this system to behave better?

Protecting the design / plan:
Find ways of protecting the plan from outside

Analyze potential problems
Protect the plan from possible problems
1. Identify what to protect
2. Identify actions and processes to protect plan or system

1. Identify system losses that are unacceptable
2. What is to be secured?

Identify risks to a design, plan, use, etc.
- potential bad things that can happen
- How severe is that?
- How likely is that?

Prioritize the risks (e.g. on the product of severity and likelihood)

Identify actions and processes to protect plan or system.
These may prevent failings, or reduce harm by mitigation

Use systematic methods
Evaluate possible alternatives and risks

Threat prioritization
1. Identify potential attackers, motives, capabilities, targeting
2. Identify the most likely routes attackers will use
3. Address / protect: How to best guard resource against these threats?

Planning a Written Document

Prepare
Establish objective
Identify reader(s)
Determine scope of coverage

Research
Notes
Library research
Interviewing
Questionnaires
Establish inputs

Organization
Choose method of development
Outline
Plan illustrations
Format, Layout and design

Draft
- Point of view
- Topic sentences
- Paragraphs
- Intro, opening, conclusion
- Title

Revise

Write proposals using persuasive form, rather than an expository form.

Proposals (full criteria)

(New) Research Proposal should describe:
- Your *objectives* with no jargon
- The *problem* being addressed
- *Why you* will be successful
- The *impact*
- How will the project be *managed*
- The *cost*

The problem:
- The *problem* being addressed
- *Why it is hard* to address the problem
- *How* the problem is addressed today
- The *limits* of current practice
- *Why* improvements are needed
- The *consequences* of doing nothing

Why you?
- What is *new* in your approach?
- Why will it be successful *<u>now</u>*?
- Why didn't others attempts work?
- The preliminary work you have done
- How the assumptions been tested on a small scale

The impact:
- Who cares?
- Who are the stakeholders
- The difference, if successful, it will make
- How will your research benefit from a successful project?
- How will the discipline, related disciplines benefit?
- How will society benefit?
- How will the funding agency benefit?

Risks and payoffs:
- What are the risks and the payoffs?
- Why it is worth it
- How risk has been mitigated
- What the backup plans are

The cost:
- How much will it cost?
- How long will it take?
- How many people?
- Institutional resources?
- What won't be done because of this?

The project management:
- The organization of the project
- The intermediate results of the project
- How progress will be measured
- The midterm checks for success
- How will plans be adjusted based on these?
- What makes it done?
- The final checks for success