

IPP20 & IPP-DL

Lecture X Project Management Essentials

Good project management cannot guarantee success, but poor management always leads to failure.

- Why do projects fail (plan to avoid failure)
- Project management essentials
- How to complete a project plan for DISS/IPP
- Tips and Advice throughout

Why do projects fail

- No vision or poorly defined outcome.

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Easy to confirm if a physical structure is 60% complete. What does it mean if data analysis or software code are 60% complete?

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IPP Implementation plan.

The central plan, which describes how the system/analysis will be developed/performed.

Key components: **IPP Expected Outcomes & Evaluation Criteria**

Specifies the metrics/process to demonstrate that the project has achieved its goal. Further describes how progress/advances will be quantified.



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Migrating the code for the discombobulate algorithm from CPU to GPU will enable for efficient confusion matrix calculations.

What if it doesn't make it more efficient? Is my project a failure?

Jonathan Lazar, Jinjuan Heidi Feng, Harry Hochheiser, Chapter 2 - Experimental research *in* Research Methods in Human Computer Interaction (Second Edition), Morgan Kaufmann, 2017

<https://doi.org/10.1016/B978-0-12-805390-4.00002-9>

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What if it doesn't make it more efficient? Is my project a failure?

Modify your outcomes to resolve two questions – first of all that you can get the algorithm to run on GPUs with the same result (i.e it works) and then to measure/compare the efficiency.

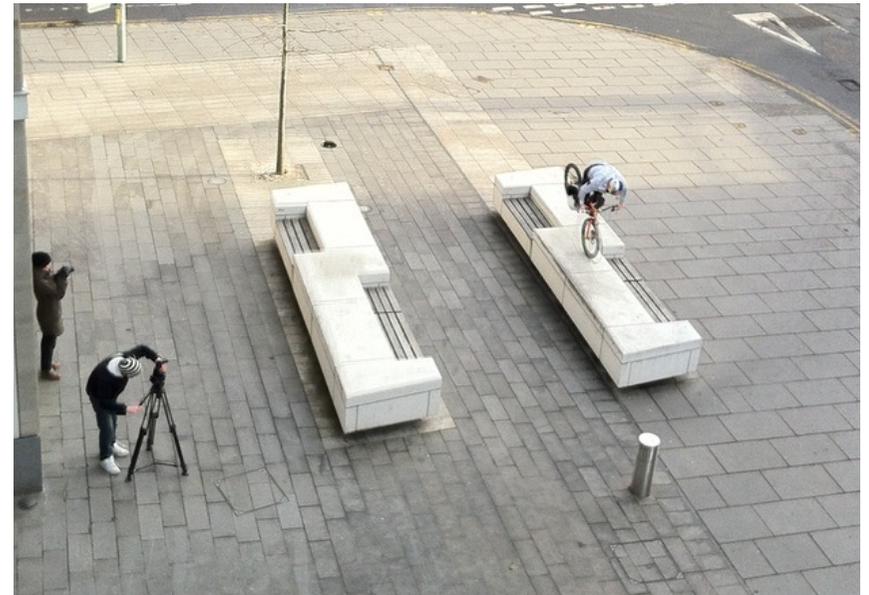
You can hack this into the final report but much easier if you design around it from the start

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Why do projects fail

- No vision or poorly defined outcome.
- Poor risk management



Underestimating risks
Inadequate control measures
Irrelevant risks
Missing internal project risks

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IPP Risk Assessment and Mitigations

Look at tutorial notes

Check your plan with your supervisor

Iterate the risks through your **implementation plan**

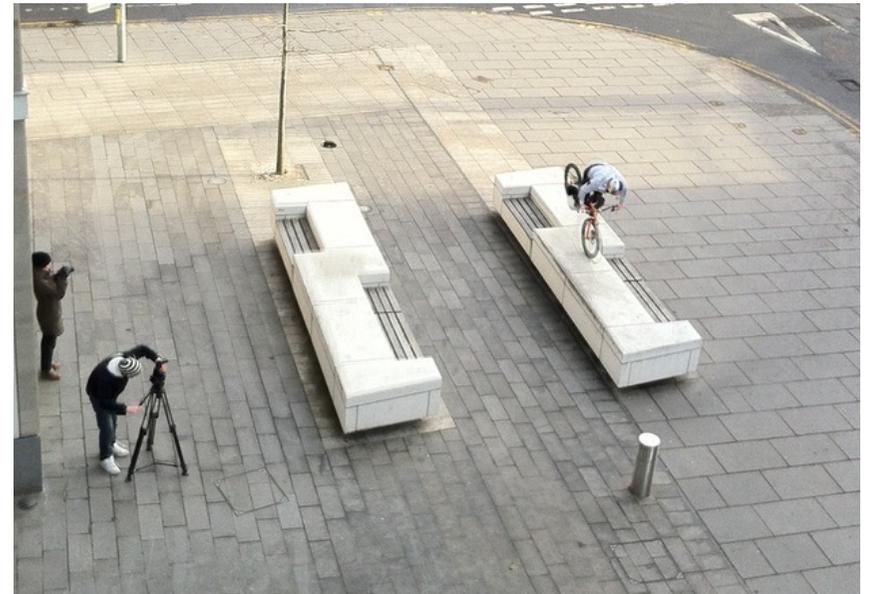
Make sure you have some contingency time

Pay close attention to **dependencies**

Be aware of project creep

Where possible link project risks to **milestones**

Understand risk and projects are dynamic.



Underestimating risks

Inadequate control measures

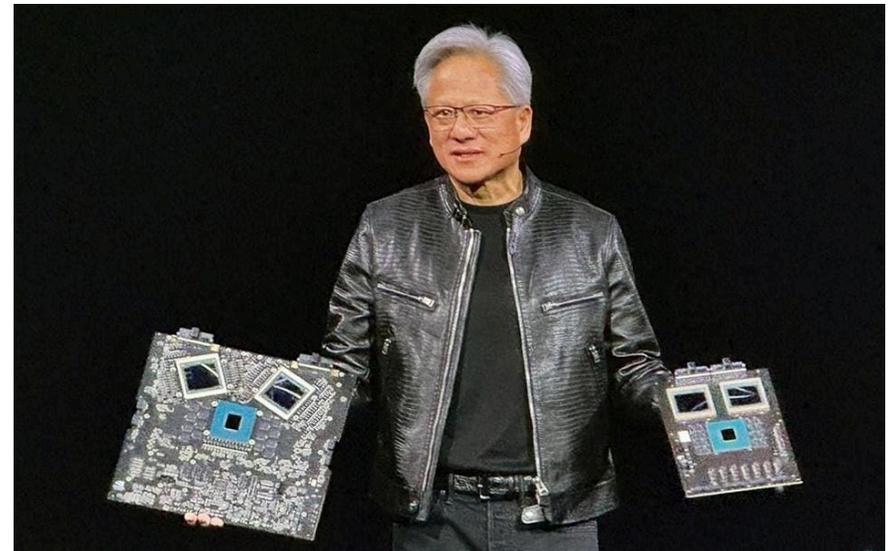
Irrelevant risks

Missing internal project risks

Why do projects fail

- No vision or poorly defined outcome.
- Poor risk management
- Lack of resources

- Consider GPU, CPU compute, disk space and storage.
- Access to controlled or third party data.
- Recruitment of testers/feedback



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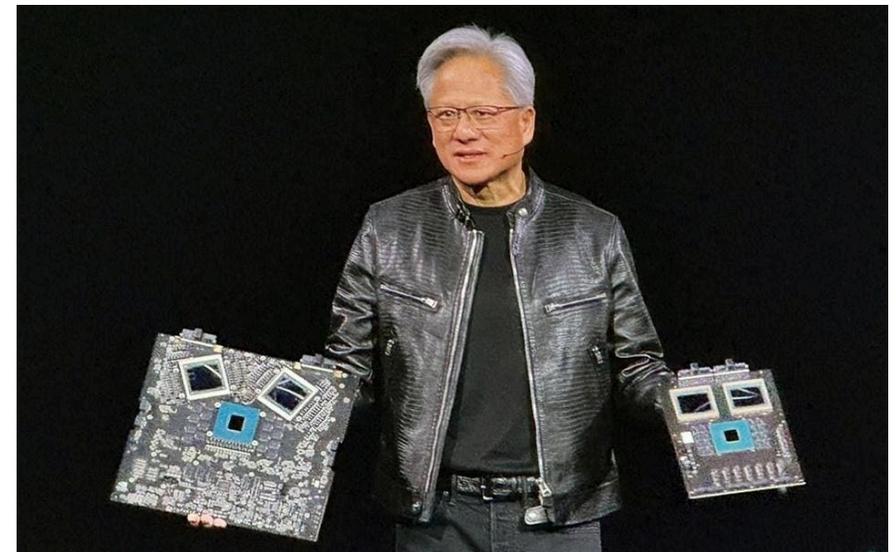
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IPP Implementation / Methodology / Risk Assessment / Responsible Research

Consider your proposed methods and read literature.
Discuss any data access issues.
Discuss compute availability with supervisor.
Factor recruitment into timeline.
Check holiday plans for everyone involved.

- Consider GPU, CPU compute, disk space and storage.
- Access to controlled or third party data.
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- Lack of essential skills



- Technical skills for the methodology selected
- Essential Domain knowledge
- Project management skills
- Dissertation writing skills

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IPP Risk Assessment / Research Plan

Factor in learning and literature review time into plan
Discuss supervisor expectations, capacity and availability (more holiday plans)
Review IPP materials on literature review and writing.



- Technical skills for the methodology selected
- Essential Domain knowledge
- Project management skills
- Dissertation writing skills

Why do projects fail

- No vision or poorly defined outcome.
- Poor risk management
- Lack of resources
- Lack of essential skills
- **Failure to make decisions**
- **Lack of planning**

IPPP

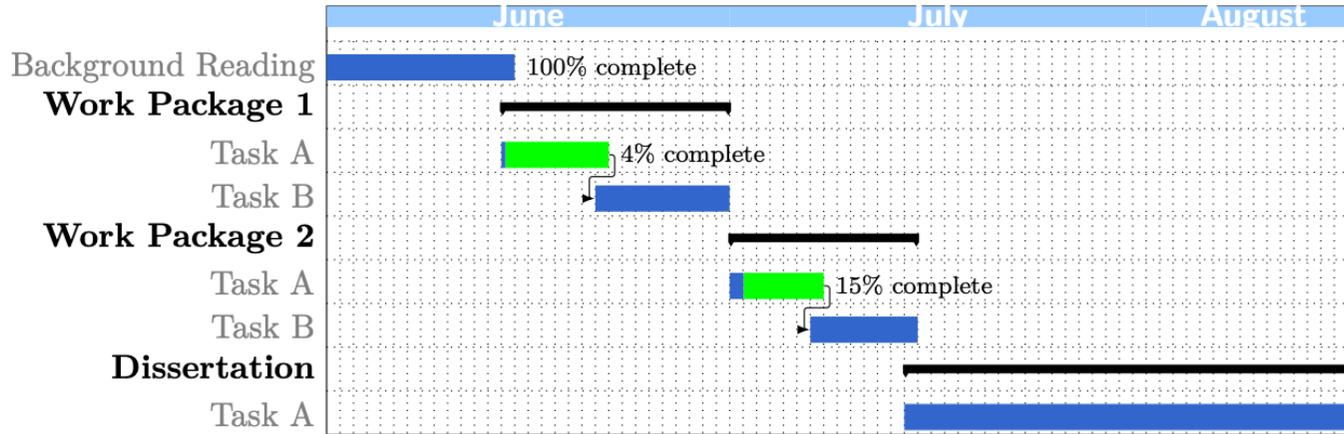
These are all interconnected

Project Management Essentials

- Lots of methodologies and tools exist.
- Most aimed at longer term group/team projects.
- Your project is short (~10 weeks full-time or equivalent part-time).
- 5 x 2week ‘sprints’
- IPP requires you to do the following:
 - *Narrative description of plan.*
 - Define and timetable **milestones** and **deliverables**.
 - Identify **dependencies**, resources and **risks**.
 - Produce a graphical **Gantt** chart summarizing plan.

4. Research Plan, Milestones, and Deliverables

Figure 1: Gantt Chart of project activities.



Milestone	Week	Description
M_1	2	Feasibility study completed
M_2	5	First prototype implementation completed
M_3	7	Evaluation completed
M_4	10	Submission of dissertation

Table 1: Project milestones.

Deliverable	Week	Description
D_1	6	Software tool
D_2	8	Evaluation report
D_3	10	Dissertation

Table 2: Project deliverables.

Provisional deadline (for 2026 projects)



- Always check the DISS course page
- Your plan can start with early reading and ethics etc.
- Research and Development should not be scheduled until after your exams finish

4. Research Plan, Milestones, and Deliverables

Figure 1: Gantt Chart of project activities.

Background Reading
Work Package 1
Task A
Task B
Work Package 2
Task A
Task B
Dissertation
Task A



Edit these to suit your plan.

Background reading or training/learning should probably be early

Work packages are conceptually groups of tasks

Tasks are the activities and should be described in narrative.

You can just have tasks if you want

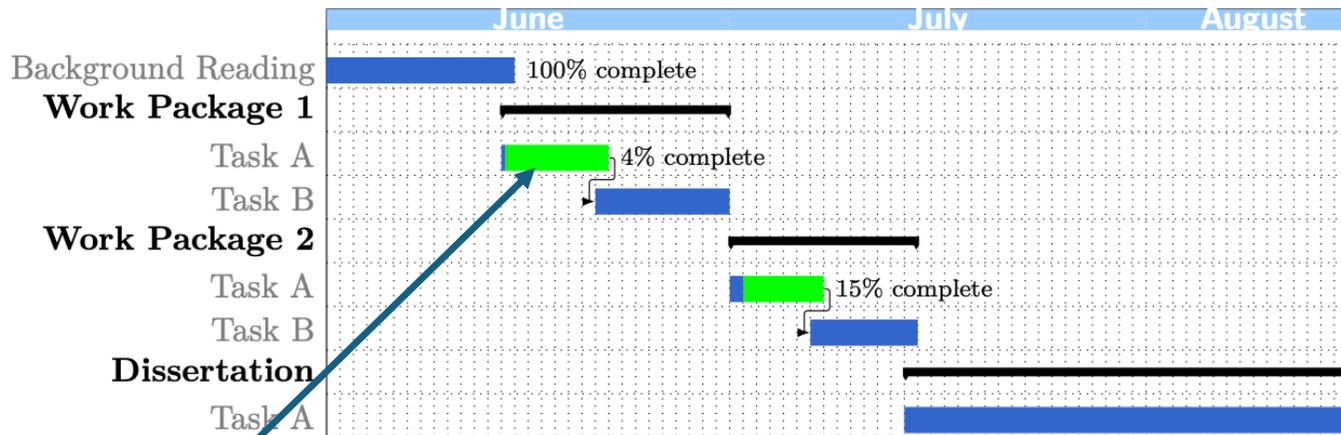
Never forget the time you need to write your dissertation

Do any tasks require the successful completion of previous tasks

Tasks can occur in parallel (but see above)

4. Research Plan, Milestones, and Deliverables

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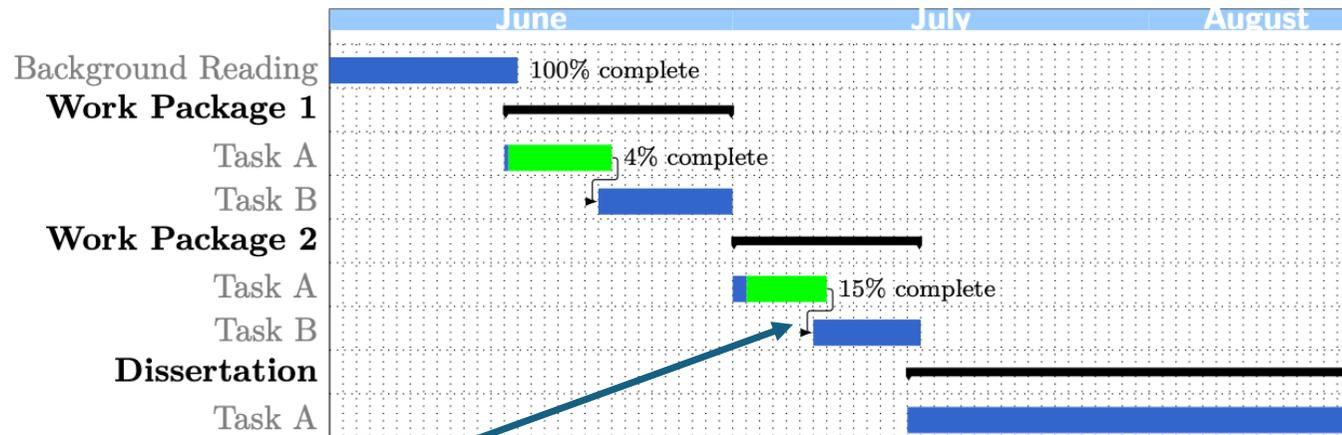


Each task should have a start and end date.

Optionally you can include a % completed to date but this is more relevant for live tracking.

4. Research Plan, Milestones, and Deliverables

Figure 1: Gantt Chart of project activities.



A key element of your plan are identified **dependencies**.

The linking line means that an output of Task A is required before you can start Task B.

Question yourself – does the dependency represent a single point of failure in your project design and is that a **risk**?

4. Research Plan, Milestones, and Deliverables

A **milestone** is a conceptual checkpoint in a project.

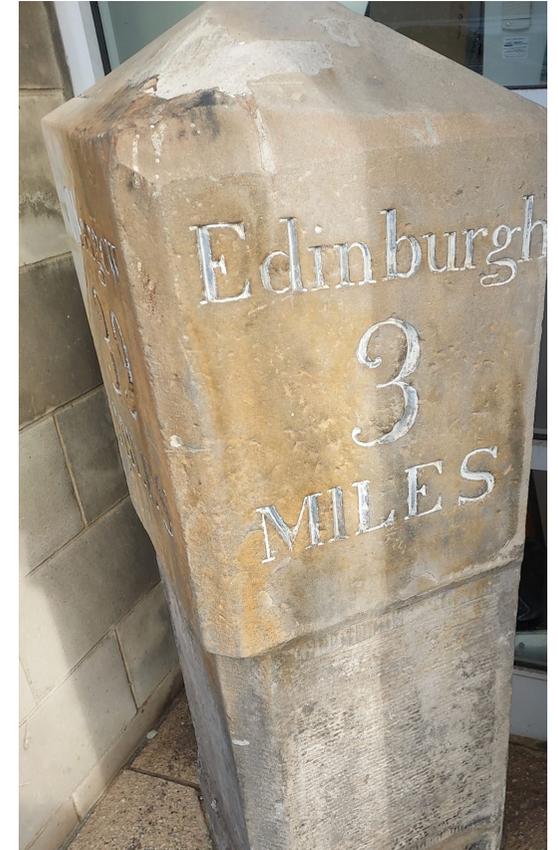
Critically it is used as an internal check that your project is on time. During the project, at the start of the day or week, review your milestones. Are you on schedule or do you need to alter your plan?

Where you identify **risks** around how tricky something might be to implement this is an ideal use for a **milestone** so you can identify if that **risk** is becoming realized while busy with the coding.

3-5 **milestones** are typical right for a short project, but it is your plan.

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Table 1: Project milestones.



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A **deliverable** is a thing/noun and in terms of project it means a report or a dissertation, software/code, dataset etc.

You should be able to identify at least one **deliverable** – your dissertation! And you know when the submission date is.

Other **deliverables** are optional. Do not spend time producing **deliverables** if you do not need them – for a conceptual checkpoint just use a **milestone**.



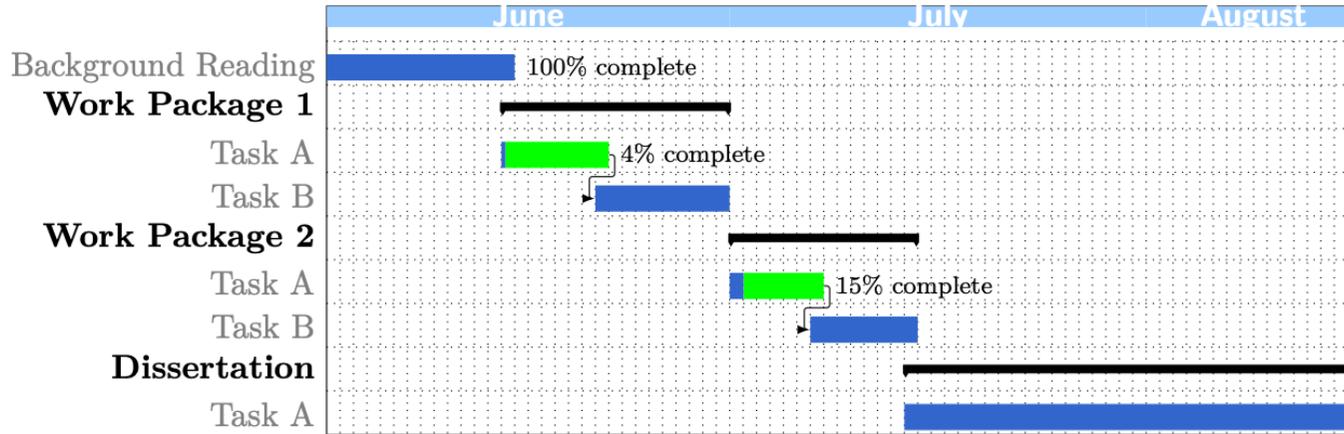
University of Edinburgh, YouTube

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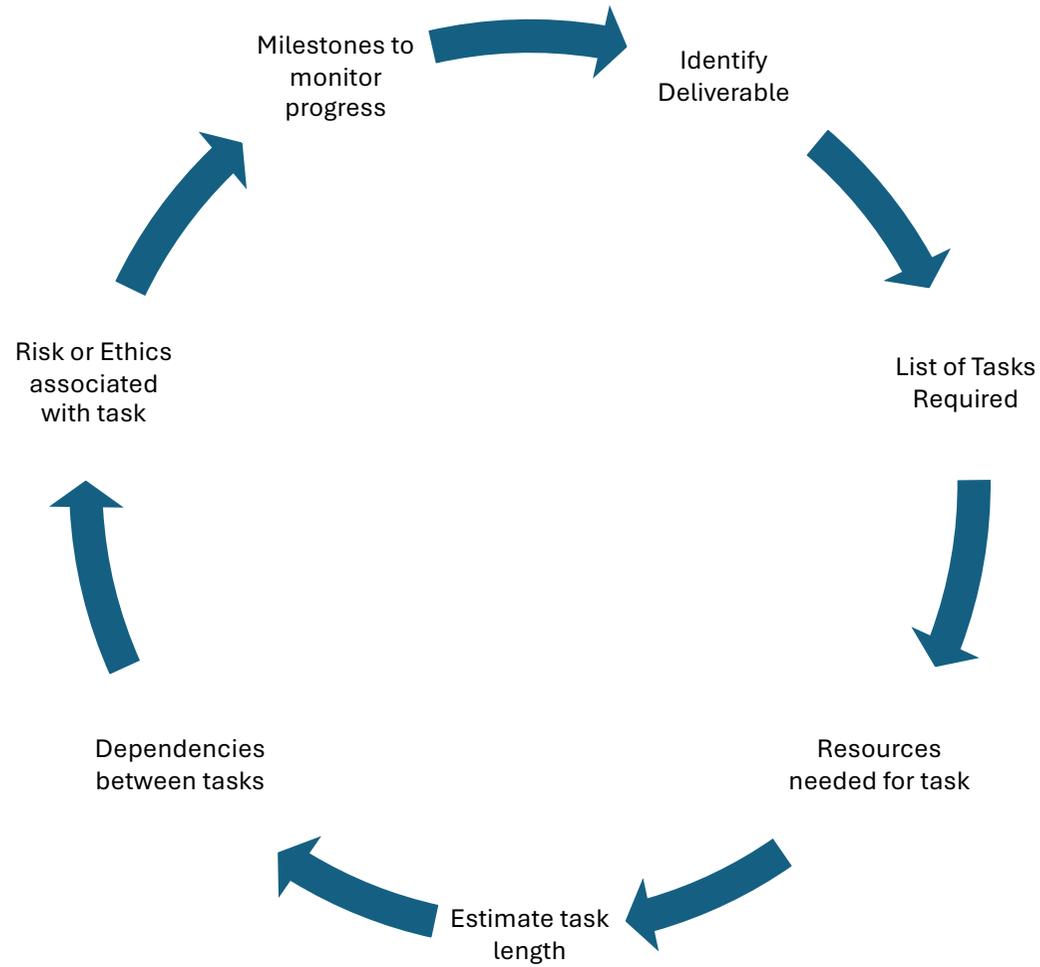


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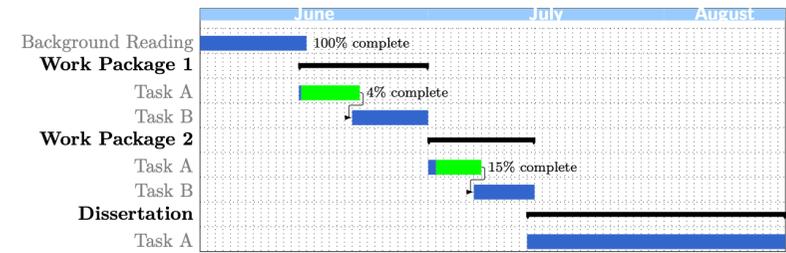
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