

Plan for today

- Teamwork
 - In-Class: Team Charters
- *BREAK*
- Project Management Tips & Tricks
 - Project Work Time!
 - Unofficial In-Class Activity: Game plan for User Needs assignment

Last Time....

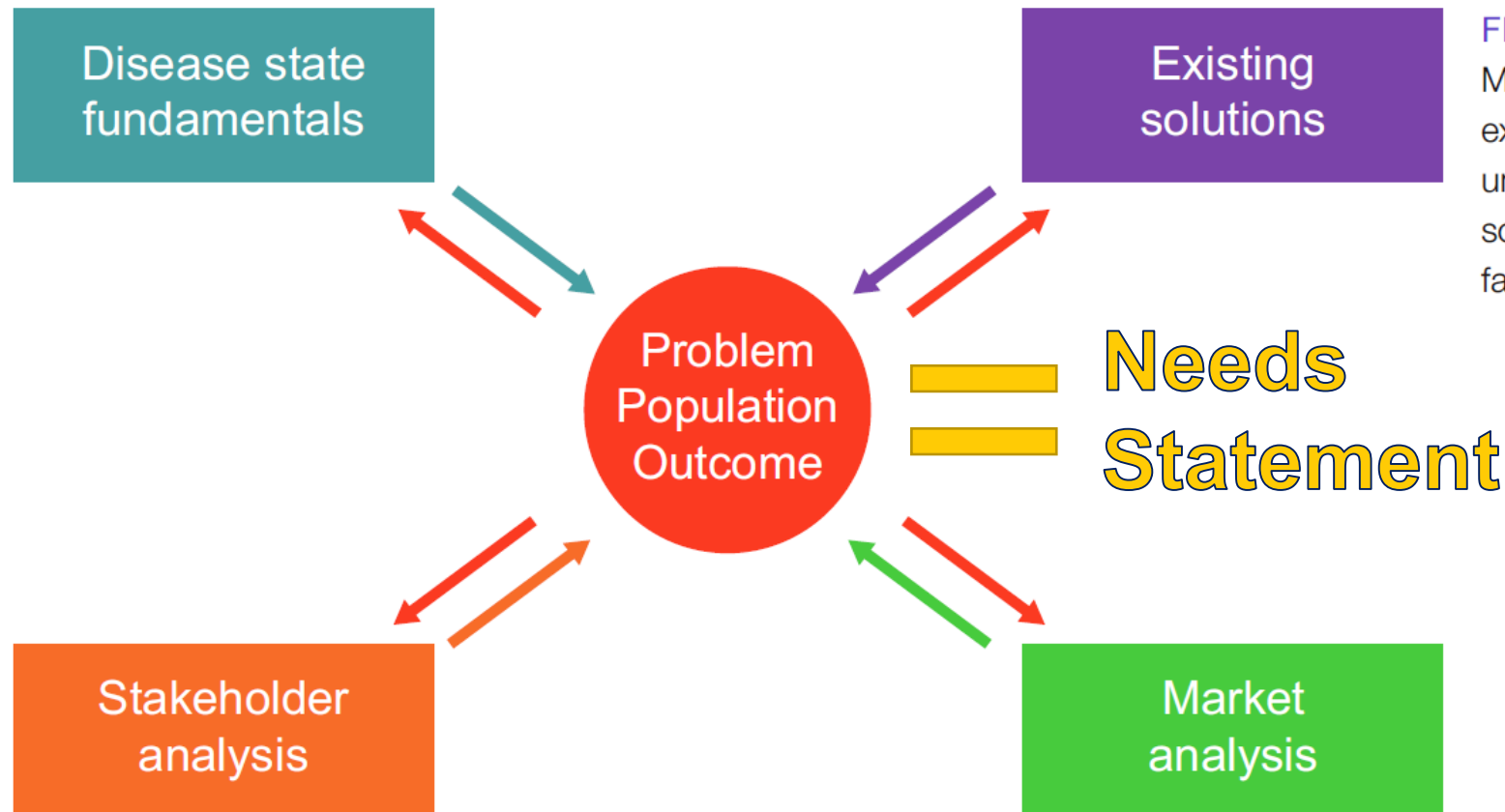
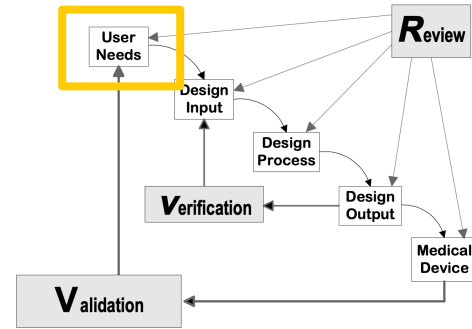


FIGURE 1.2.2

Maximizing the value of needs exploration requires a fundamental understanding of disease, existing solutions, stakeholder, and market factors.

Questions on the User Needs Assignment?

Last *Last* Time....

Engineering Effective Teamwork – Self Awareness



Establishing norms

Establish what is “normal” for your team and remember that different teams may set slightly different expectations based on individual preferences

Be open and honest about your own preferences so the team can reach consensuses

Typical norms for most well-functioning teams include:

Everyone communicates and agrees on mode (email, text, video conference, etc.)

Everyone participates during regularly scheduled meetings

Everyone executes their tasks, responsibilities, and deadlines

Everyone values and encourages individual differences and divergent points of view



2X1 Labs Canvas site!

Establishing norms

Adopt: setting and applying standards for group performance, identifying tasks, creating unified goals, taking individual responsibility and accountability

Avoid: only caring about your grade, intentionally causing dissension or conflict, social loafing



Consider: making a 'group contract' that outlines expectations for procedures, roles, and behaviors among the team members

["Making Group Contracts"](#) – Centre for Teaching Excellence, University of Waterloo

These are the terms of group conduct and cooperation that we agree on as a team.

Participation: We agree to....

Communication: We agree to...

Meetings: We agree to....

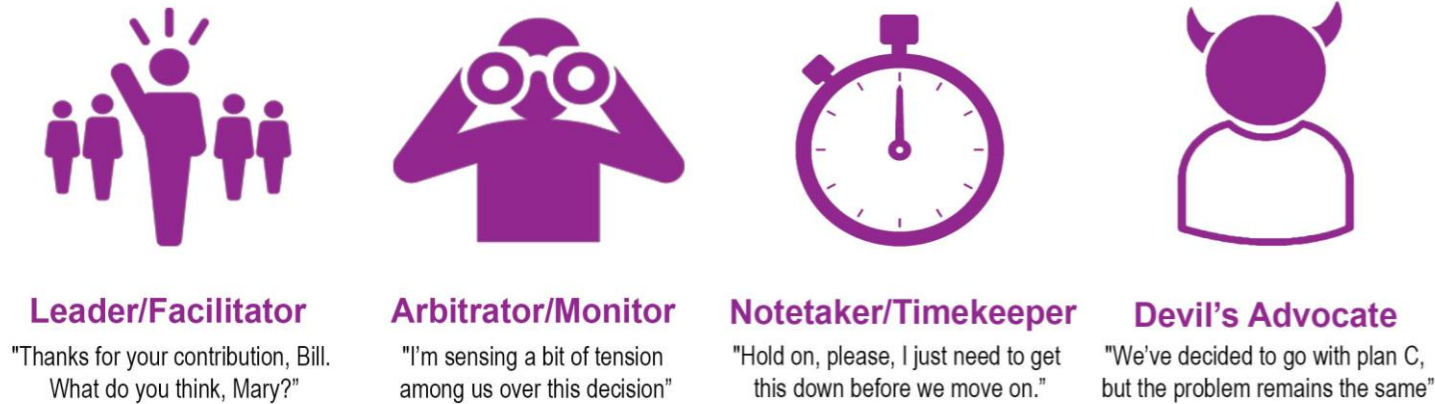
Conflict: We agree to...

Deadlines: We agree to...

Team Member's Name	Team Member's Signature

Team roles

Identify team members strengths and experiences and assign roles. For example:



<https://skillslab.tue.nl/A56-Group-roles-maximizing-group-performance.html>

Adopt: Knowledge of everyone else's roles and a willingness to rotate these roles. You can include this on your team contract!

Avoid: Unclear responsibilities of the different roles and overstepping your role

Decision making techniques

Adopt:

Consensus – all members had a fair chance to influence the decision, members who don't agree still understand and support the majority

Avoid:

Self-authorized decisions – one team member immediately putting an idea into action without group approval

'Secret handshake' – a minority of teammates agree and act on a decision without support of the whole team

'Kill' – one team member, often in a leading role, responds so negatively to an idea that it's never considered again

[“Teamwork”](#) – Center for Academic & Professional Performance, Millikin University

Decision making techniques

Use Caution:

Unanimity – generally impossible to obtain, often unnecessary, slows down the decision making process

Majority – often achieved through simple voting, but the dissenting minority may resent the decision and work against it

Negative majority – host a vote for the least popular idea and eliminate it, repeat the process until a final decision is reached

Ranking – individuals rank ideas, options, resolutions, etc. in a preferred order (1-5), votes are tallied with the highest overall score ‘winning’

[“Group Decision Making”](#) – Centre for Teaching Excellence, University of Waterloo

Think – “Pair” - Share

- **Think! (2 minutes)**
 - What forms of decision making have you done in the past?
 - Consensus
 - Self-authorized decisions
 - ‘Secret handshake
 - ‘Kill’
 - Unanimity
 - Majority
 - Negative majority
 - Ranking
- **“Pair” – nearby 5ish people (5 minutes+)**
 - One **volunteer to report out** during share
 - Circle around to say hi
 - What have you used in the past?
 - What is entirely new to you
 - Discuss
 - **What do you think of these forms of decision making?**
 - **Which one does your group like best?**
 - **Which one does your group like least?**
- **Share – (5min +)**
 - Volunteer reports the highlights of Discussion Q’s above

Conflict resolution

Conflict is inevitable, but deciding ahead of time a set of rules your team will follow for handling disagreements (establish those norms!) will allow you to resolve conflict quickly

One example:

- Give conflicting team members 3 uninterrupted minutes each to present their suggestion or position
- Allow the other members to ask clarifying questions
- Allow 3 minutes of group discussion after which consensus is sought by the group
- If a majority can be reached, anyone who disagrees with the particular resolution still agrees to support the team's decision

Rules to adopt:

- **No personal criticisms about the speaker are allowed**, only respond to content, treating everyone with respect and equality
- **Seek an outsider (e.g. IA or instructor) to moderate your discussion** and ensure there's no inappropriate forms of criticism

Consider what OUTCOMES you want to avoid
How every person can contribute to that goal

Team Charters - 40 minutes in-class

Group Assignment - 5pts

Due “By end of class” – Canvas deadline is 11:59PM two days from now.
Pull up teamwork reflection assignments to help!

Participation: We agree to....

Communication: We agree to...

Meetings: We agree to....

Conduct: We agree to...

Conflict: We agree to...

Deadlines: We agree to...

Don't be afraid to add,

“It's okay to miss a meeting
when.....”

or

“if we must miss a meeting, we
agree to.....”

No one is perfect! Better to
plan for occasional disaster!

Tip!

Make quantified goals, such as:
Meet *4 days* before deadline
Answer group text within *1-2 hours*
Answer email within *1-2 days*



Take a 5-minute Break!

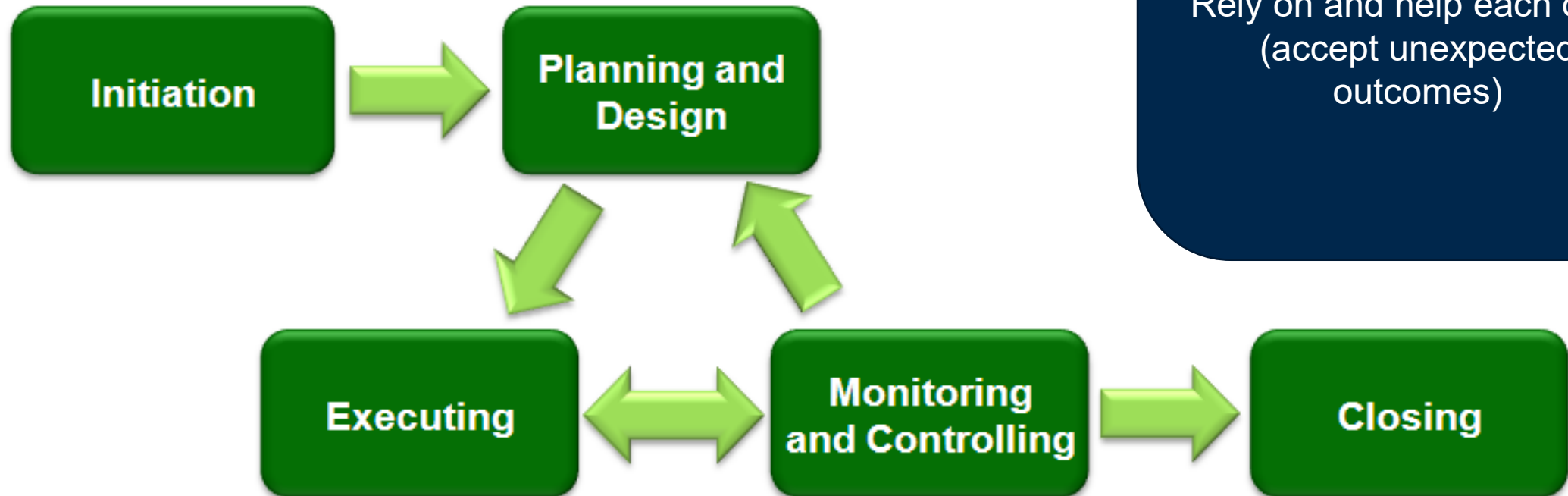
Versailles, France – August 2025

Next up for today

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- Project Management Tips & Tricks
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Project Management

- **Aim & Expectations:** What are the aims & expectations of the project.
- **Plan:** The planning and forecasting activities.
- **Process:** The overall approach to all activities and project governance.
- **People:** Including dynamics of how they collaborate and communicate.

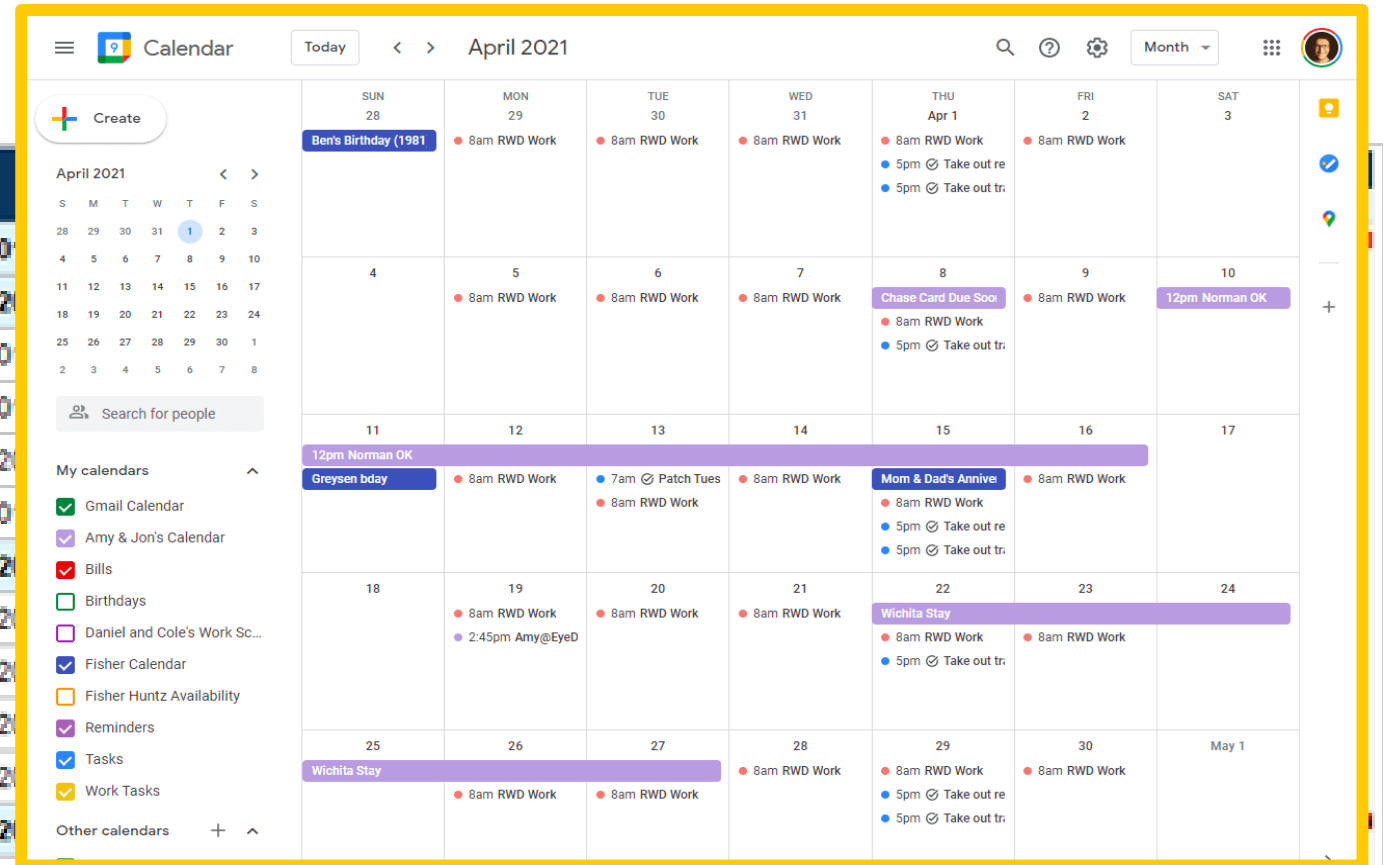


My personal Tips:
Communication! Check-ins!
Buddy Systems!
Yes-and for each other
Rely on and help each other
(accept unexpected outcomes)

Task Tracking Tools

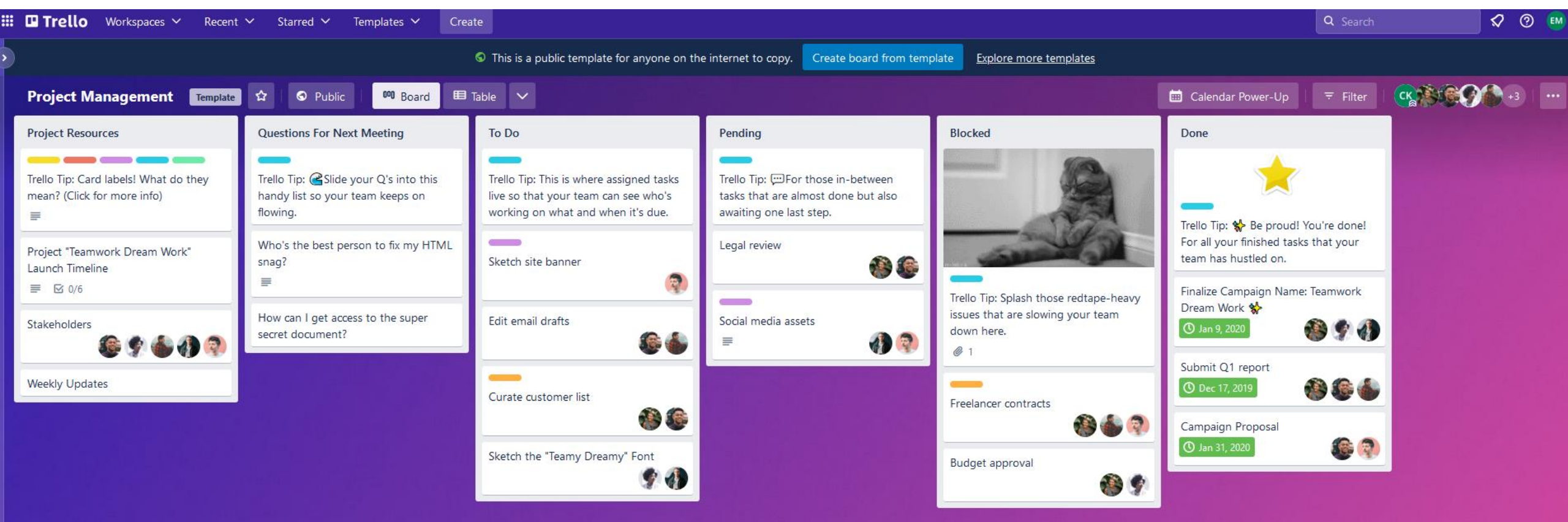
Gantt Chart, Google Calendar – AKA waterfall

		Tas...	Task Name	Duration	Start	End
1			Business Plan	48 days?	1/1/2015	3/9/2015
2			Phase 1 - Str...	9 days	1/1/2015	1/13/2015
3			Define the...	2 days	1/1/2015	1/2/2015
4			Revenue P...	4 days	1/5/2015	1/8/2015
5			Evaluate B...	3 days	1/9/2015	1/13/2015
6			Helpful Links	0 days	1/1/2015	1/1/2015
7			Phase 2 - De...	11 days?	1/14/2015	1/28/2015
8			Define the...	3 days	1/14/2015	1/16/2015
9			Identify Ne...	4 days	1/19/2015	1/22/2015
10			Evaluate P...	3 days	1/23/2015	1/27/2015
11			Confirm de...	1 day?	1/28/2015	1/28/2015
12			Phase 3 - Pla...	15 days	1/29/2015	2/18/2015
13			Develop D...	5 days	1/29/2015	2/4/2015
14			Describe th...	2 days	2/5/2015	2/6/2015



Task Tracking Tools

Trello, Asana, ClickUp, Miro – AKA Agile



Source: <https://trello.com/b/1x4Uql2u/project-management>

Either methodology works for this class

Waterfall

- *Assignment* requirements are clear and settled
- Each phase has defined deliverables
 - Complete before continuing
- Defined roles within team

Agile

- For *you* the requirements may be uncertain
- Need for speed and flexibility
- Team members work on all aspects of project
 - Take initiative to complete tasks

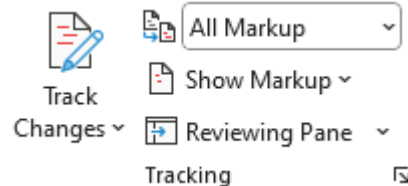
Either system involves knowing what tasks are to be done
and assigning people to those tasks

Assigning Tasks & Version Control

Communication & Labeling are Key!

Documents

- Name-date.docx
- Name-v1.docx
- Name-subpart-v1.2.docx
- Google version history
 - Use comments and editing mode as needed
- Microsoft Word Track Changes (Review)



Software Files

- Consider: Main and branches
 - Main is most stable version
 - Branches – “checked out” versions being edited.
- Solidworks has “rollback” options within a file

Consider how you want to communicate and organize so that one person is not stuck with the whole part/piece of a project

Trunk/Main can branch then merge

Word Docs: <https://support.microsoft.com/en-us/office/combine-document-revisions-f8f07f09-4461-4376-b041-89ad67412cfe>

Solidworks:

Advanced techniques:

<https://www.solidworks.com/media/branch-merge-solidworks-pdm>
[Compare documents](#)

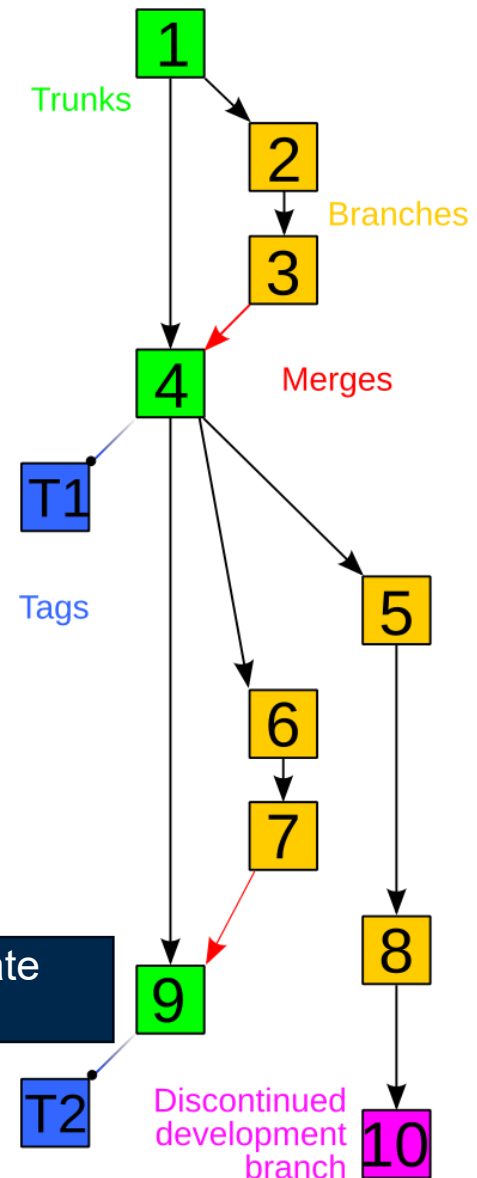
Can also create folders in Google Drive to differentiate Main from branches.

Once a branch becomes ~final, you can put it back into the main folder, and put the old “main” into a “prior versions” folder

- Part 1

- Part1_v3.sldprt
- Branches(folder)
 - Par1_V3.1
- Older versions (folder)
 - Part1_v2.sldprt
 - Part1_v1.sldprt

Indicates someone is working on an update for this part (communicate via text too)



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Solidworks:

Advanced techniques:

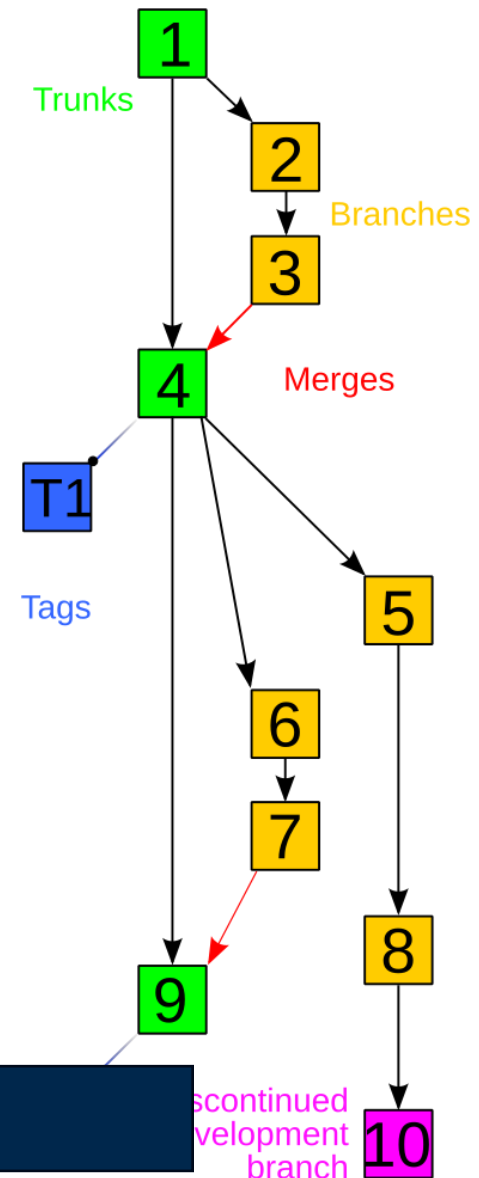
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Keeps old versions just incase



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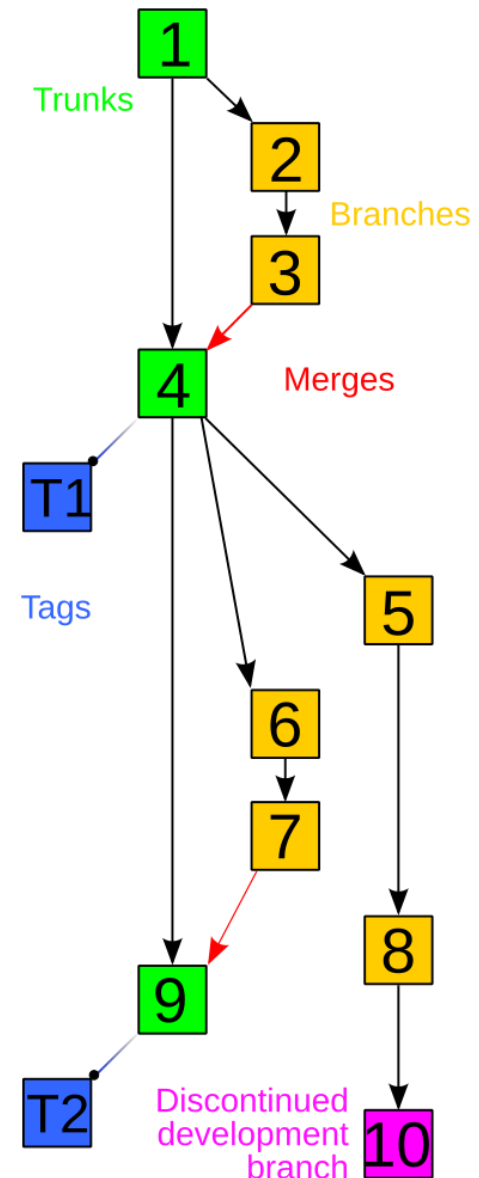
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If you choose this route, consider “Checkout” and “Check-in” texts, notes, or some kind of Communication with team.

(more examples: <https://serengetitech.com/tech/introduction-to-git-and-types-of-version-control-systems/>)

Avoid being stuck for days! Check something back in and let someone else work on it!



Project Work Time

Unofficial In-Class activity: Game Plan!

- Determine what tasks need to be accomplished to finish and submit your User Needs Assignment
 - What needs to be investigated?
 - What needs to be created?
 - What needs to be reviewed?
 - Where will the work be done?
- Determine who wants to work on what
 - Buddy system?
 - Full split-the-party?
- Determine when you want to meet up again to review the assignment
 - Re-assign tasks if needed?
- Who does the final submission?
 - Everyone together?
 - One person?
 - What amount of work goes into the paper between the “okay” and the “submit” button.

Next Time

- Enumerated User Needs
- Design Requirements
 - Standards
 - Assignment 2 overview

