Capstone Kickoff

Process and Timeline

DC Version

// FLATIRON SCHOOL

Agenda

1. Agile methodology
    a. Stand-ups
    b. Kanban boards
    c. Sprints
2. Whiteboarding
3. Schedule
    a. FSM
    b. MVP
    c. Deployment
    d. Showcase

Agile Methodology

- Broadly, “agile” means the opposite of “waterfall” → short, iterative cycles rather than planning everything up front then executing on it
- You can read much more about the full methodology here, but we are going to use three particular elements in capstone:
  - Stand-ups
  - Kanban boards
  - Sprints

We understand, sometimes Agile can feel like this…

...but bear with us!

https://twitter.com/markdalgleish/status/1246253412271849473

Stand-up (scrum)

Short meeting every day to discuss your progress with a group of peers working on similar projects

Instructors acting as “managers” overseeing the process and taking notes

Flatiron DS Stand-up "Script"

Intro
My name is _____ and I'm a data scientist with a background in _____

Project Elevator Pitch (30 seconds, should explain what problem/need you are addressing, and how you are addressing it)
_____
_____

Accomplishments
Since our last check-in, I have _____

Plans for Today
Today I plan to _____

Blocking issues (if relevant)
I need help with _____

Kanban Boards

Project work is broken down into discrete tasks, represented by “cards”

“Cards” are placed onto a “board” to indicate their status

Flatiron DS Kanban Board Format

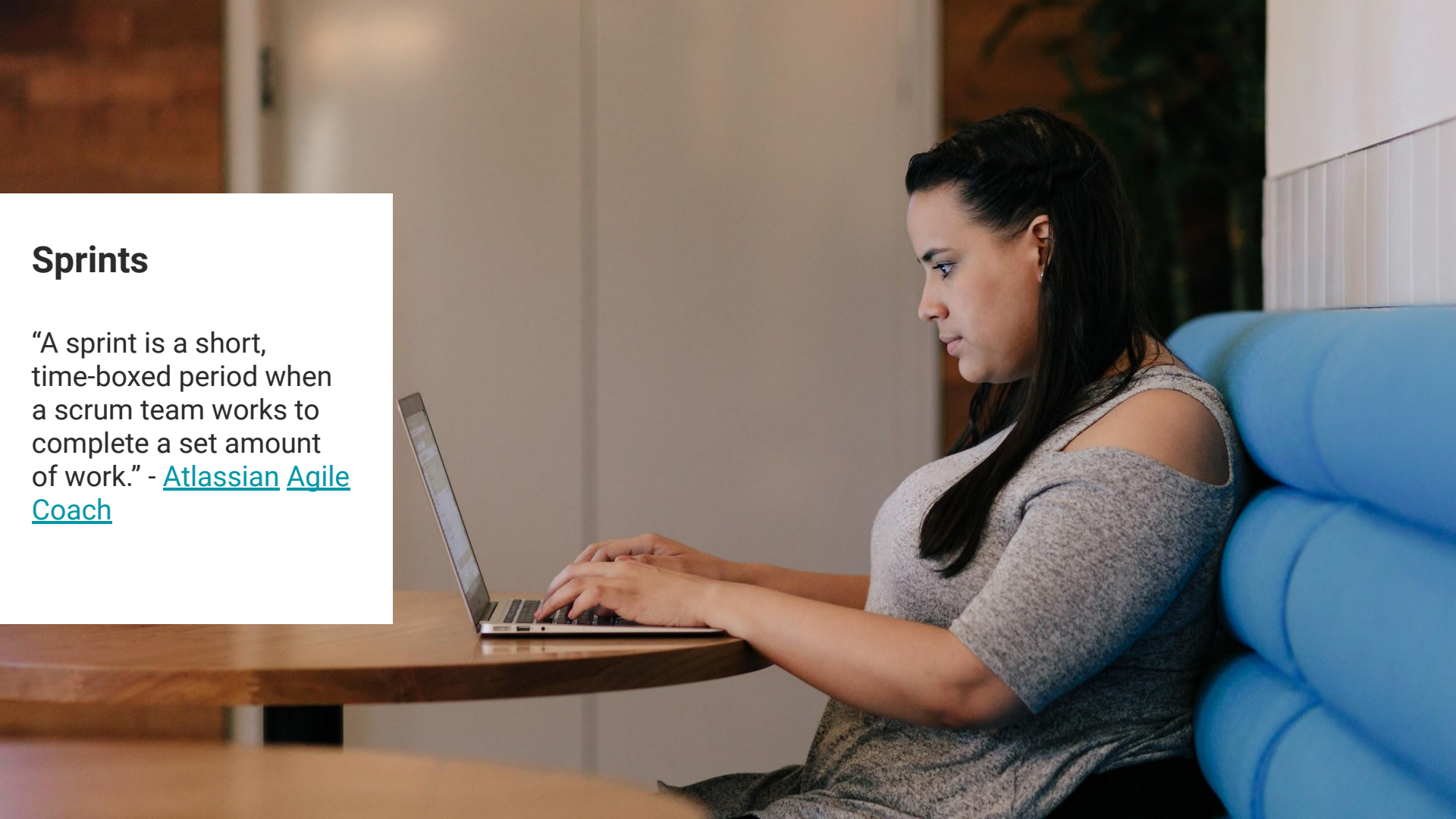
ICE BOX	TO DO	DOING	DONE
Nice-to-have tasks that you might have time for during capstone, might work on after graduation, or might never get to, e.g.: ● Adding interactive visualizations ● Deploying live website ● Conducting a user study with surveys	Everything for your MVP starts here, unless you have already completed it before capstone started, e.g. ● Data collection ● Writing repository README(s) ● Creating presentation slides	A card should only stay in this category for a day or two at most Instructors should be able to look here to get an immediate snapshot of what you're working on and what you might need help with	Pretty self-explanatory… put cards here when the task has been completed!

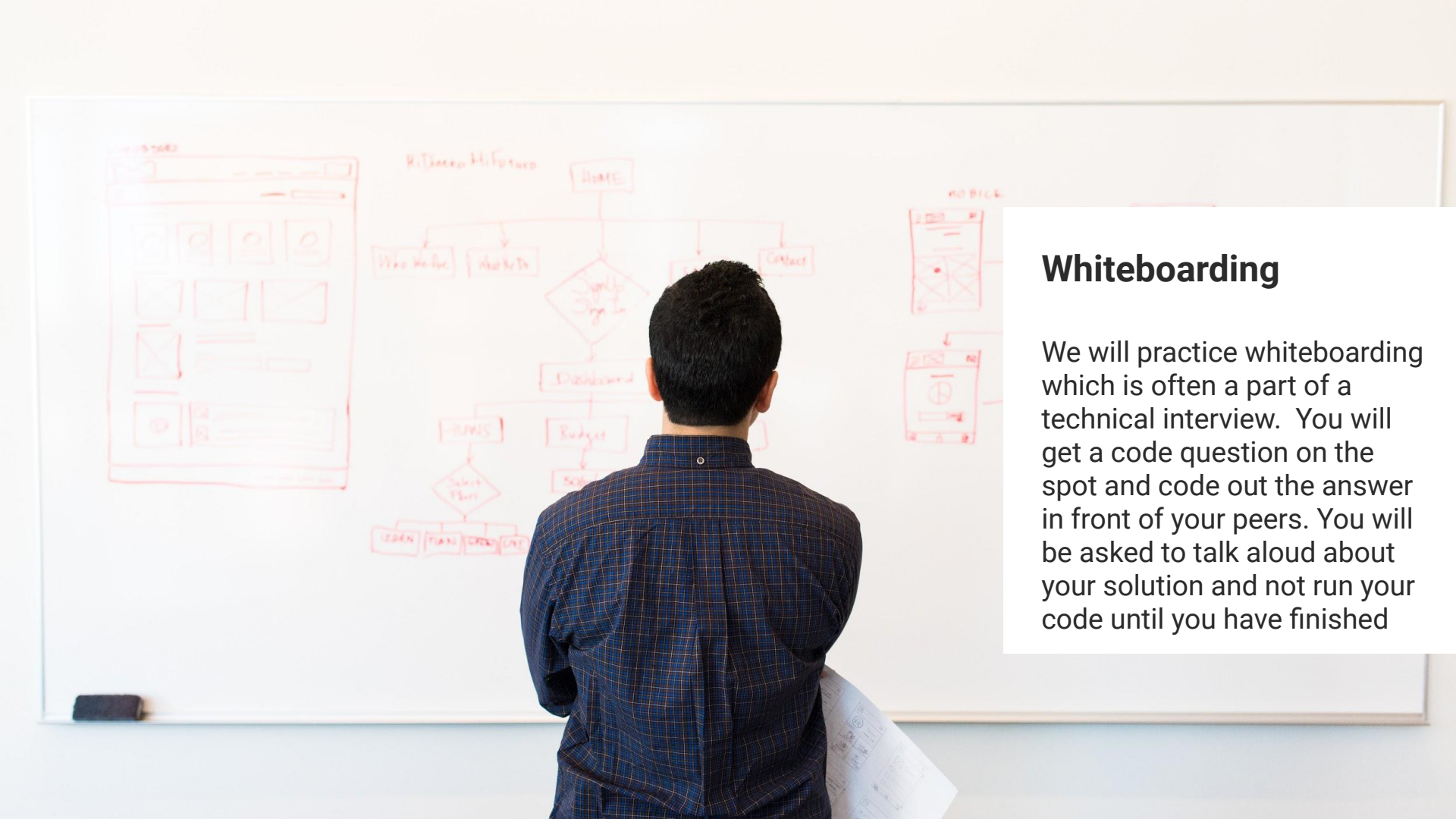
Kanban Board Tools

- In some contexts, this can mean physical sticky notes or index cards, but we'll use software tools
- Trello tends to be most popular
- You can also make a project board directly within GitHub
- Other tools are also fine, as long as you give all instructors access
    - Filled-in kanban boards will be discussed at your first capstone check-in

Sprints

“A sprint is a short, time-boxed period when a scrum team works to complete a set amount of work.” - Atlassian Agile Coach





Whiteboarding

We will practice whiteboarding which is often a part of a technical interview. You will get a code question on the spot and code out the answer in front of your peers. You will be asked to talk aloud about your solution and not run your code until you have finished

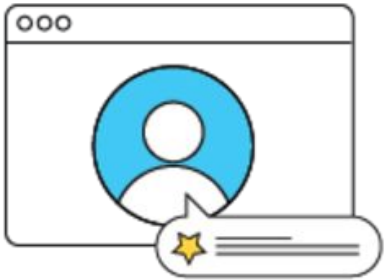
Capstone Schedule

Week	Monday	Tuesday	Wednesday	Thursday	Friday
13	• Checkin: KanBan Setup/Goalsetting	• **Deadline**: Minimum 3 EDA Visualizations Done & First Stinky Model Run	• Checkin	• **Deadline**: Multiple Models Run & Evaluated	• Checkin
14	• Check-Ins	• **Deadline**: Final Model Selected & Draft of Slidedeck	• Minimum Viable Product Submissions		• Feedback on MVP
15	Campus Closed-Labor Day	• Check-Ins • 2nd Round MVP Submissions	• Capstone Showcase Runthrough • Final Touches on Project Presentation and GitHub Repo	• HARD STOP @2PM • Cohort Activity • Capstone Project Showcase	• Mod 5 Survey • Graduation • Final Feelings

FSM

What: Aim to have a “first stinky model” that takes in data and makes a prediction, along with a filled-in kanban board

Deliverable format: Send a link to your kanban board and GitHub repo containing code to your FSM to all instructors via Slack. There will not be a formal review of your FSM, but you should have your code pushed up by the end of the day.

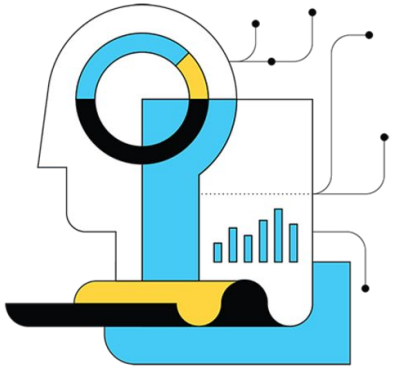


MVP

What: All basic requirements complete for a “minimum viable product” (see rubric)

Deliverable format: 5-minute presentations to instructors, all code and other artifacts submitted in canvas.

WHY: Determines if your project has met our graduation requirements!



*if you have not met the MVP requirements at the first submission, we will conduct a second review the following week, at which point we will make a final pass/fail determination

Element	Complete Project	Minimum Viable Product (MVP)	Incomplete Project
Business Understanding	Clearly explains the **real-world value** the project has **for a specific stakeholder**.	**Clearly explains the real-world problem** that the project sets out to solve.	Project has **unclear goals** (e.g. explore a dataset) or **no real-world relevance**.
Data Understanding	**Relates data source and properties of variables to the real-world problem** of interest.	**Describes data source and properties of all variables** used in data preparation and modeling.	**Does not describe data source or explore variables** used in data preparation or modeling.
Data Preparation	Data preparation is fully **documented, including valid justification** for decisions	All data preparation steps are **reproducible and justifiable**.	Data preparation is **not reproducible or justifiable** given the problem of interest.
Modeling	Model development is correct, iterative, and fully **documented, including valid justification** for decisions	Models are **developed iteratively and justifiably**, proceeding from a simple baseline model to more complex models.	Models are **not developed iteratively or justifiably** given the problem of interest.
Evaluation	Clearly **explains how well the project solves the real-world problem** of interest.	Cross validation or another validation process is used correctly to **evaluate model performance**.	Cross validation is **not used or is used incorrectly** to evaluate model performance.
Readme Content	README is **error-free** and **well-written**: clear, concise, complete, organized, narrative, starting with a project overview.	README **correctly includes all required elements**: data science process steps, future improvement ideas, repository navigation, reproduction instructions, links to presentation and sources.	README **omits required elements or has substantial errors** in writing or substance.
Notebook Content	Notebook is **error-free** and **well-written**: clear, concise, complete, organized, narrative, starting with a project overview.	Notebook **correctly includes all required elements**: data understanding, data preparation, modeling, and evaluation.	Notebook **omits required elements or has substantial errors** in writing or substance.
Presentation Content	Presentation is **error-free** and **well-written**: clear, concise, complete, organized, narrative, starting with a project overview.	Presentation **correctly includes all required elements**: introduction, data science process steps, future improvement ideas, and contact info.	Presentation **omits required elements, or has substantial errors** in writing or substance.
Presentation Style	**All** presentation slides have a professional style.	**Most** presentation slides have a professional style: uncluttered, light on text, no unnecessary jargon, visuals clearly demonstrate key points.	Most slides have **unprofessional style**: cluttered, text- or jargon-heavy, visuals that are dense, unclear or unnecessary
Sourcing	Properly cites all content created by others and **provides as much access as feasible and permissible**.	Properly **cites all content created by others** (e.g. data, code, images).	Has **uncited content created by others**, or **uses content without appropriate permission**.

Capstone MVP Submission Checklist

Use this checklist to ensure you are including all the elements required for MVP.

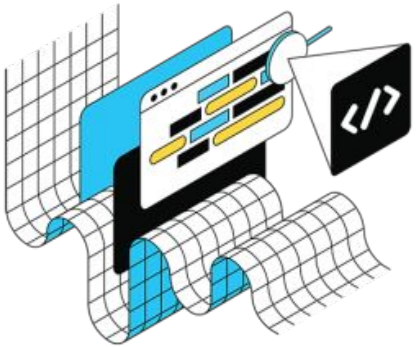
Check for presence and QUALITY!

https://github.com/learn-co-curriculum/dsc-capstone-submission-checklist/

Deployment

What: Make your static analysis “come alive” through a web app, dashboard, interactive visualization, etc. This is optional but highly encouraged.

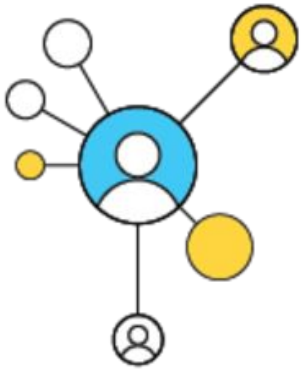
Deliverable format: Typically we recommend making a second repository with a pickled version of your model. There are also (potentially-free) live hosting services we can point you towards. You do not need to submit anything to us, but you’re encouraged to share with others!



Showcase

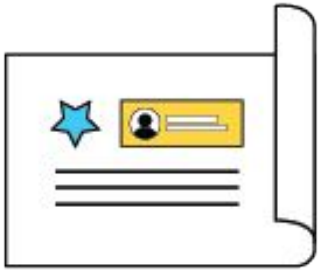
What: Prepare a final presentation of your work for the capstone showcase.

Deliverable format: The capstone showcase will take place as a virtual “webinar”. Prepare to deliver a presentation in approximately 5 minutes, and be able to answer follow-up questions. The capstone showcase will be open to friends and family, as well as current, former, and prospective students.



Graduation

What: A short “ceremony” where we give some final advice and send you off into the world



Questions?