From Ideas to Applications

An Overview of the Ideation, Screening, Scoping, and designing the Minimum Viable Product

What Applications do you use? How to get to your very own…

- Think through those applications & programs that you use daily – they were once just ideas in someone's head

- The journey to create them took many steps and probably just as many back steps to make corrections and refine the idea.

- Our process will do the same with the end goal of identifying the "Minimum Viable Product", our MVP, which is the functionality that once built will demonstrate its usefulness while also providing you with the most feedback on how to proceed.

- A little planning helps to improve your chances for building a much better application the first time. Development is expensive and this investment is key to getting closer to a bulls eye earlier in your project process.
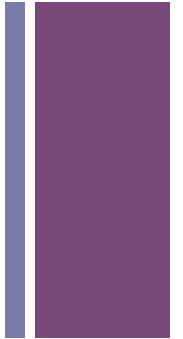
Step One: Generating Ideas
## What do <u>you</u> want to build??

- Start with problems: something that could be remedied or made better by a new computer application.

- Identify issues that you are passionate about and/or affect you regularly, you will be drawing from your built-in expertise!

- Consider similar applications and how you could improve or apply their ideas in different ways or mash them up.

- Don't limit yourself in any way, assume you can figure out or find someone to build the application.

- Brainstorm a bunch of ideas, don't throw any away at this point – write them down to be reviewed later.
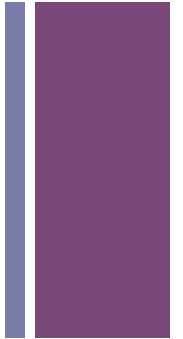
Screening your Ideas:
Selecting "A Few Good Apps"

- Share your ideas with your group, discuss them, see if others can help you initially develop them to better understand how they could be useful

- Examine them by considering:
  - How has this problem been solved or task performed without computer, what are the steps normally taken to solve it?
  - Uncover the Who, What, When, Where & Why of the problem – does this help you specify just how it will help?
  - How significant are these aspects of the problem: Regularity, Cost, Severity, Predictability, & Popularity
  - Try Acting them out: role play can expose other dimensions and is fun.

- Use these insights along with your team's passions to select a handful of ideas to consider.
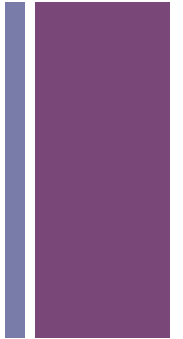
Application Platforms:
Pick what is best for your App

- **Computer Applications** (i.e. Java programs) – familiar to what we have been doing in class, but limited in usage

- **Native Apps** – take full advantage of device's features, but limited to that device or require redesign on others.

- **Web Apps** (HTML5, CSS3 & JavaScript) – can be designed to work on the browser of a multiple devices: computers, mobile devices & tablets.

- **Hybrid Apps**: uses HTML5 and JavaScript, that is wrapped inside a thin native container that provides access to native platform features.

- **Social Media Apps**: within various platforms, but difficult to develop within our high school due to security.

- More details on at:
  https://developer.salesforce.com/page/Native,_HTML5,_or_Hybrid:_Understanding_Your_Mobile_Application_Development_Options

Key Step: The Pitch
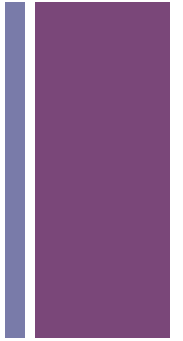
- Develop a short "Elevator Pitch" for your project ideas. A 30-60 second pitch that could be delivered during an elevator ride to a potential investor.

- These should include:
  - The problem the application will solve
  - What platform do you intend to build it in
  - Specifically who are the intended users
  - What is the major innovation you are providing to solve the problem.

- This should be short enough to sell your idea. Refining it will help you determine its value.

+ Scoping

- Market: Does a similar Application already exist or is there a need for one? Perhaps you have an innovative way of improving or combining an existing into something that can become successful. How will your App compare to the competition? [You may discover there is no need, time to step back and try again]

- Users: Identify your Users, keep in mind that there may be many different kinds. Create User Personas to identify their demographic as well as their specific needs. Surveying users is useful at this stage.

- Your Minimum Viable Product (MVP) Solution: Hone your product down to meet the needs of your users and determine the key functionality that is needed to make it successful…

+ Screen & Flow Prototyping

- Build Scenario Maps to determine the key functionality of your product. This will help you identify the screens and first draft of the flow for your application.

- Screens & Flow: Tools such as InVision and Balsamiq provide a way to quickly create screens and flow of your Application to simulate your users' experience.

- Reviews to refine your MVP: Reviewing your Screens & Flow prototype with others help you gain valuable feedback to iterate and improve your MVP.
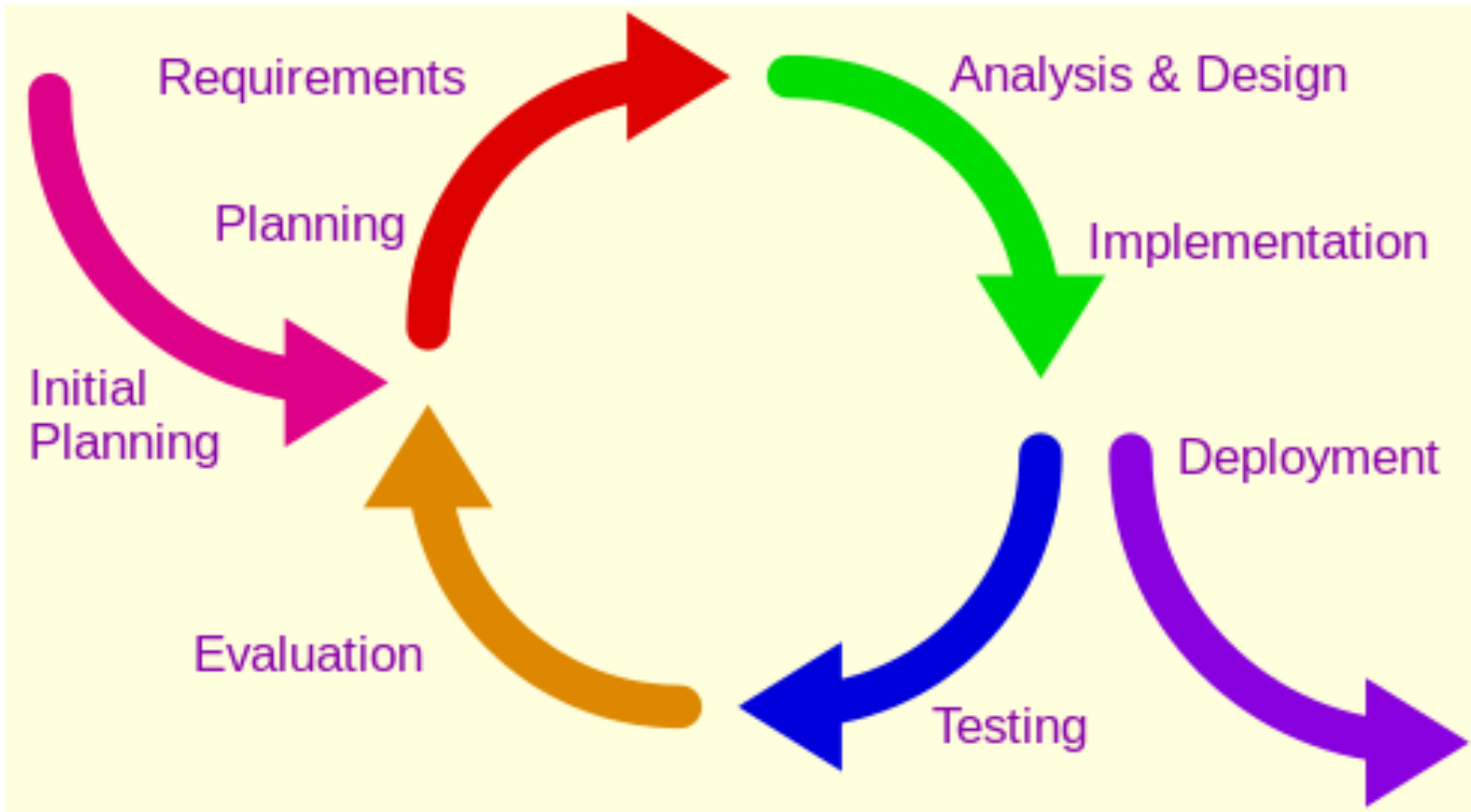
+ Periodic Mentor Feedback!

- Professional feedback regularly along the way is very important, and we have our daily TEALS mentors available as well as additional professionals that can help out.

- Being required to explain your ideas to others helps you better formalize and understand them yourself and can improve your design before you even meet.

- Mentors provide the view from industry and help identify your projects' strengths, ideas for improvement, areas where you may need to research more details and additional resources.

- These meetings also acts as a regular reality check.

Where's the programming?

- Yep, all this work typically happens before development is engaged - this is the initial design planning process

- Iteration: But once we have identified our initial MVP, then we can begin development, build the minimum (or even a portion of that), get some feedback, adjust the design and then develop a bit more and repeat.

- This is the Iterative process that is key to most product development…

What's the Iterative Process