

Kickstart Software Development with User Interface (UI) Prototypes

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The Agile Manifesto

We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

<http://www.agilemanifesto.org/>

Prerequisite of Agile

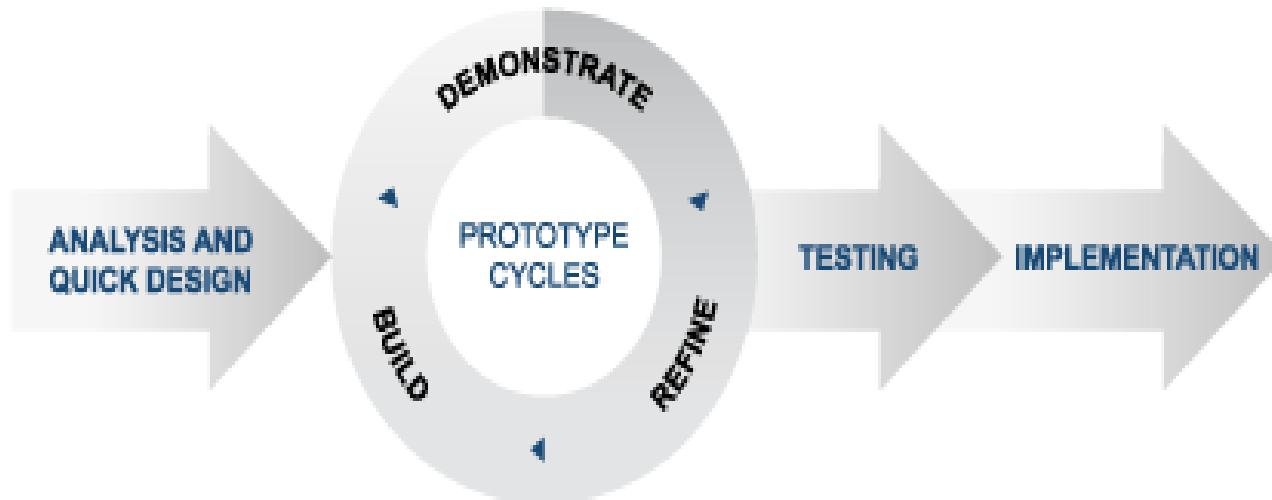
- Adopting Agile methodology assumes that the high-level vision and budget for a project have been decided.
- These fundamental decisions about scope and goals should be communicated to the team formed to build the product.

What is Prototyping?

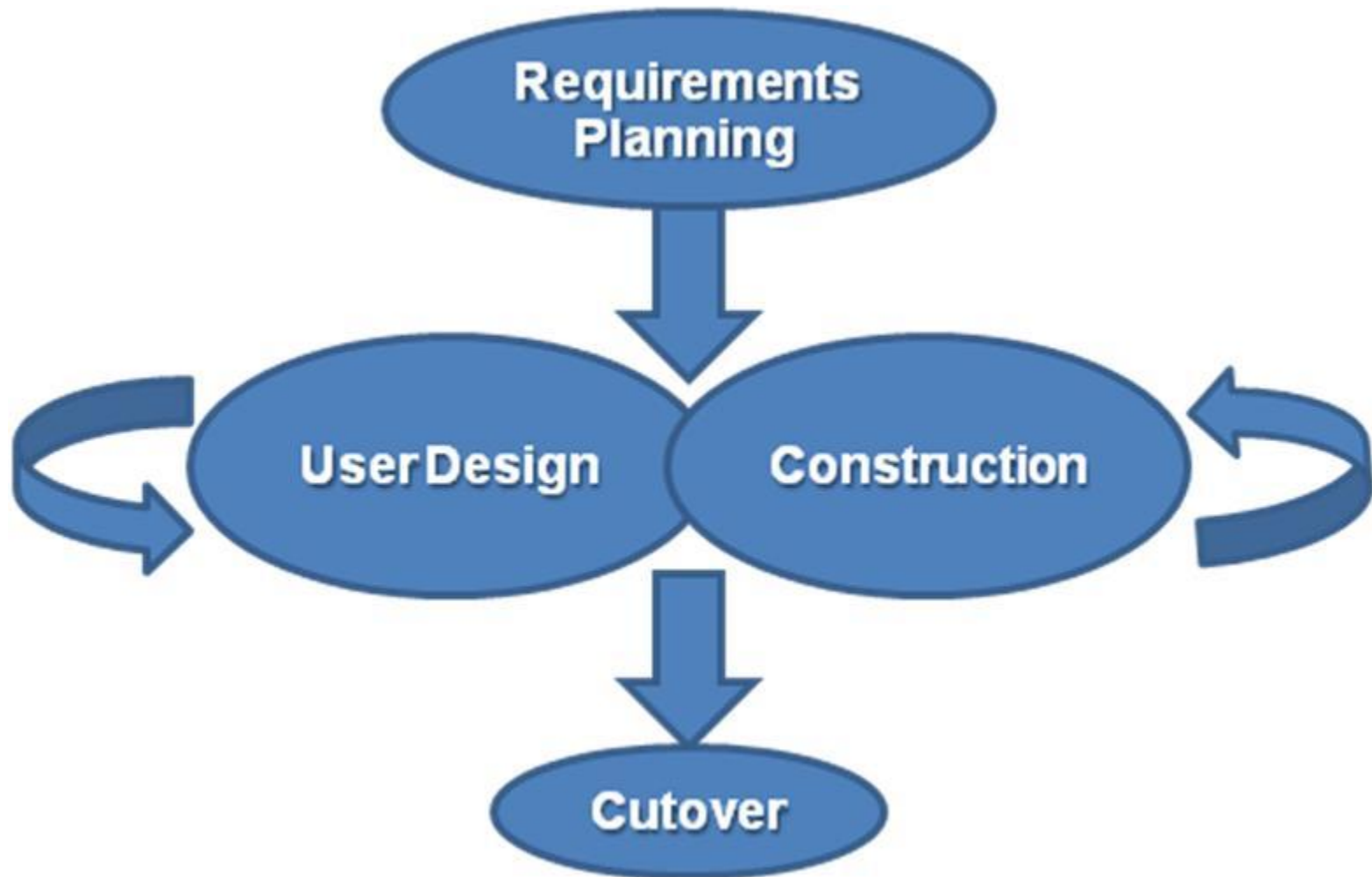
A prototype is a working model of a product, typically built for demonstration purposes.

Rapid application development (RAD)

- Rapid application development (RAD) is an Agile approach to software development which focuses on gathering requirements through building graphical user interfaces.
- BAs continue to adjust requirements as knowledge is gained as the project progresses.



Rapid application development (RAD)



Defining Prototypes Classifications

Should the prototype be implemented as the final product or server as the requirement for the software build?

Not for Resell (NFR) Prototypes

VS

Shippable Product

Opinion

- The focus of the Prototype should be the user interface and experience. The **working prototype** should become the final requirement for the software build. Keep the prototype lightweight and portable. **Build for reusability.**
- Focus on: Colors, Layout, Navigation, Workflow, Content, Browser / Mobile Device Compatibility
- Avoid: Database connections, Infrastructure Implementation, Document Repositories, Security

Benefits of Prototyping

Risk Reduction

Through a Proof of Concept (POC) design, a prototype will:

- test feasibility of a design
- prevent the pursuit of complex or time consuming solutions
- identify problems earlier within the life-cycle



Better Requirements

- Through continues demonstrations and building as a series of prototypes that evolve from minimal functionality to moderately useful to the final completed feature.
- Having users interact with evolving prototypes will provide BAs with useful and focused feedback.



On Time and On Budget

- Focusing development of incremental units (iterations) reduces chances for catastrophic failures.
- The project team focuses on features and functionality that provide the best value and return on investment (ROI).



Kick Starting

A small skilled team with limited resources can quickly gather requirements and build a working prototype (within minutes).



Disadvantages of Prototyping

Resource Availability

- Requires time from business users, subject matter experts, and business analysis, throughout the project life cycle. Requires more interaction between users and developers.
- Without business commitment of domain resources throughout the life-cycle, Rapid projects will not succeed.



Less Control

- Rapid is a very flexible adaptable process, allowing changes to be made quickly. This results in a trade-off between flexibility and control. Critical projects that value control over agility, Rapid is not a good fit.



Poor Design

- Over focus on cosmetic and trivial features can cause functionality and critical components to be overlooked.
- Too many demonstrations can result in developers constantly making minor changes and ignoring system architecture issues



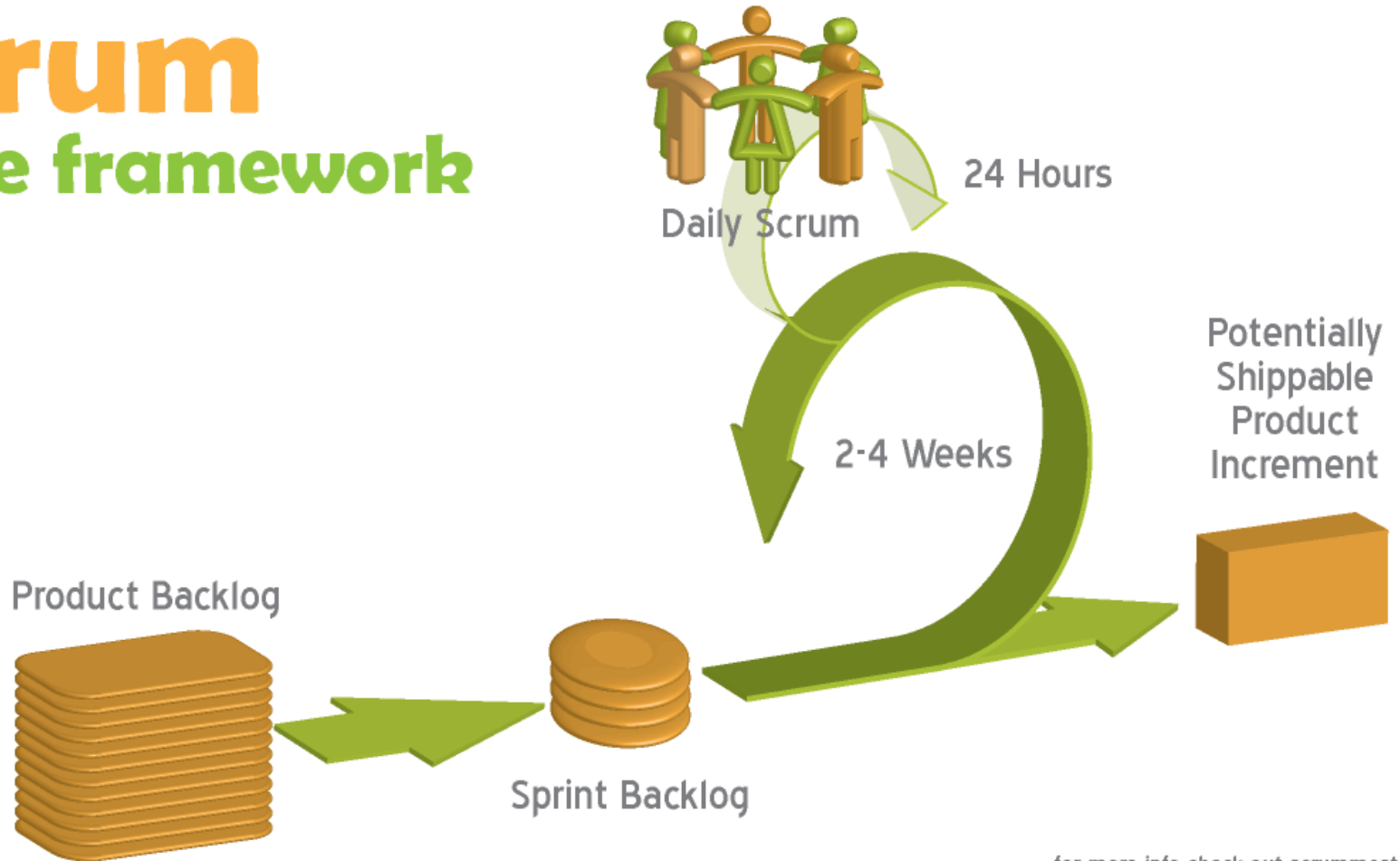
Scalability Issue

- Rapid typically focuses on small to medium-sized project teams. Very large scale systems present unique challenges.
- Rapid can be difficult to follow once the initial software release is shipped. Many teams switch to scrum once release 1 is complete.



Popular Agile process in use is Scrum

Scrum the framework



Prototype Cycles

- Wireframes
- Graphic Design
- Prototype Tools - Clickable Images
- WOrking User Interface

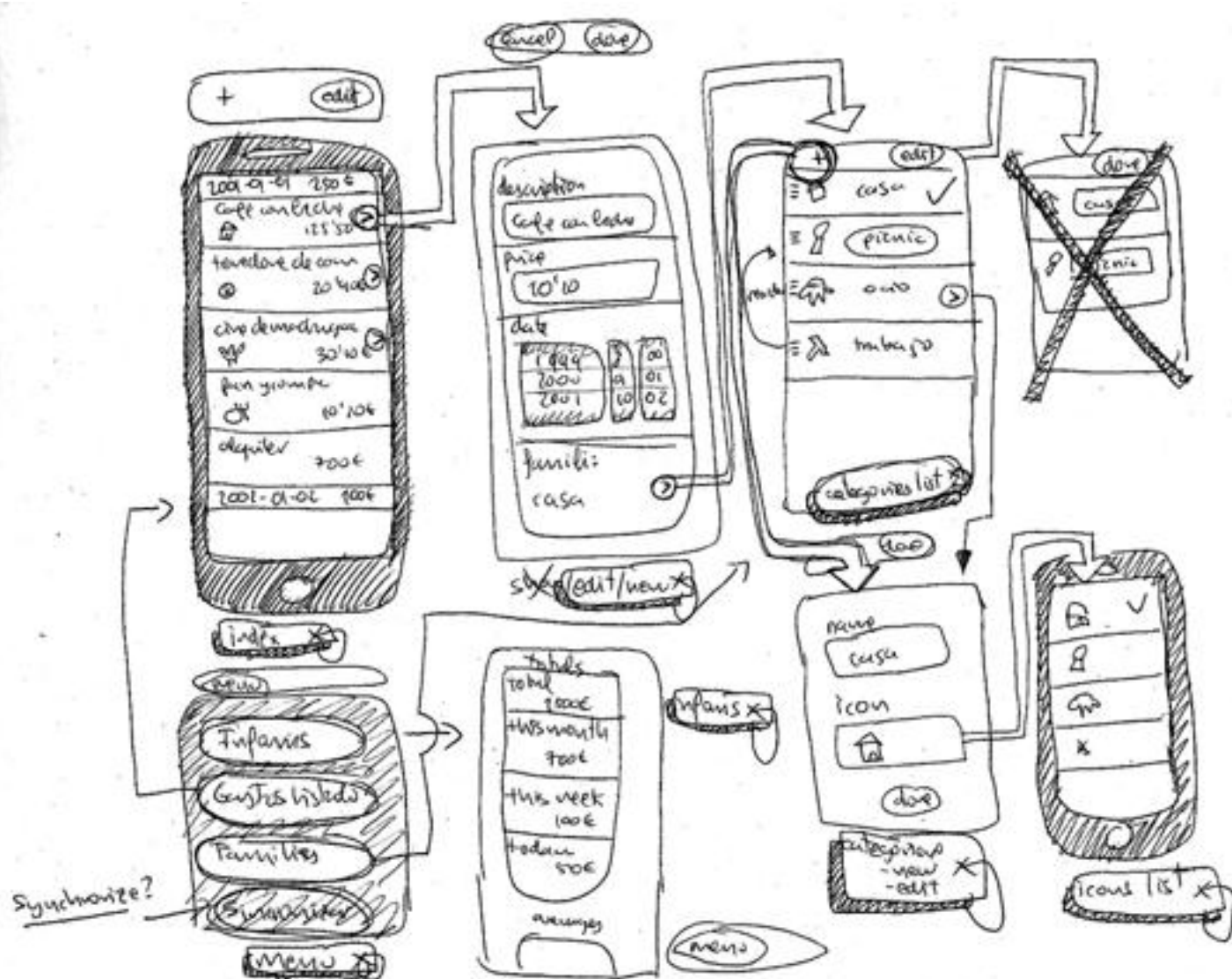
Wireframes

Wireframes

A visual guide that represents the skeletal framework of a user interface.

- Wireframes conceptualize an idea and communicate the ideas to a group
- Team member can review wireframes for design ideas
- Wireframes reduce the amount of time needed by extensive requirements or prototype development

Wireframes



Graphic Design

Graphic Design

- Wireframes are converted into images by professional graphic designer
- Graphic Designer introduces several color pallets any page layouts
- Navigation options are designed
- Product Logo is designed or incorporated

Graphic Design

- Divide graphic design into 2 cycles.
- 1 - Application landing page (logged in users).
- 2 – remaining wireframes

Prototype Tool

Prototype Tools

Design, share, and test prototypes

Consolidate feedback from your team and stakeholders

Easily create and review iteration.

- Invision - www.invisionapp.com
- UXPin - www.uxpin.com

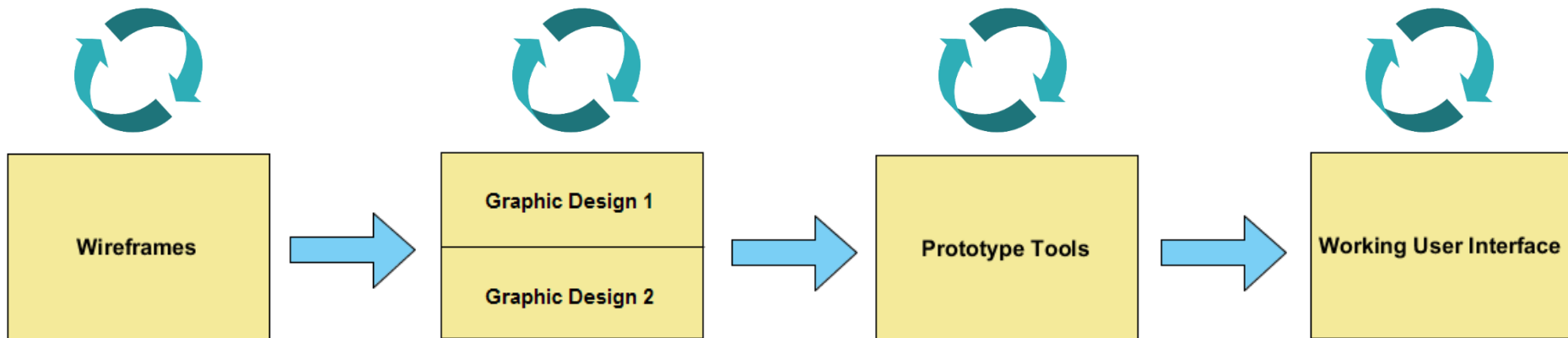
User Interface

Angular

- Angular is a JavaScript framework that makes it easy for developers to implement many interface features.
- Uses HTML5 / CSS3 / Bootstrap
- Fundamental building block for web and mobile frameworks



Prototype Cycles



Examples





- [Home](#)
- [Search](#)
- [New Request](#)
- [Contacts](#)
- [History](#)
- [Feedback](#)
- [Manage Account](#)
- [Help](#)

Welcome to the Contract Submission System

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Attachment Type

Acrobat (PDF)

Attachment Description

Complete contract document description.

Attachment File

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Questions



A visual guide that represents the skeletal framework of a user interface.