#### Can We Get Some Agile Here?

The Application of Agile Project Management Principles for Library IT





Ray Uzwyshyn, Ph.D. MBA MLIS Associate Dean, Collections and Strategy Mississippi State University Libraries, USA ruzwyshyn@gmail.com, http://rayuzwyshyn.net Presented For: **Agile Methodology in Libraries**, Innovation in library projects and management, IFLA Satellite Conference, 18 August 2023 Erasmus University, Rotterdam, Netherlands Erasmus University Rotterdam



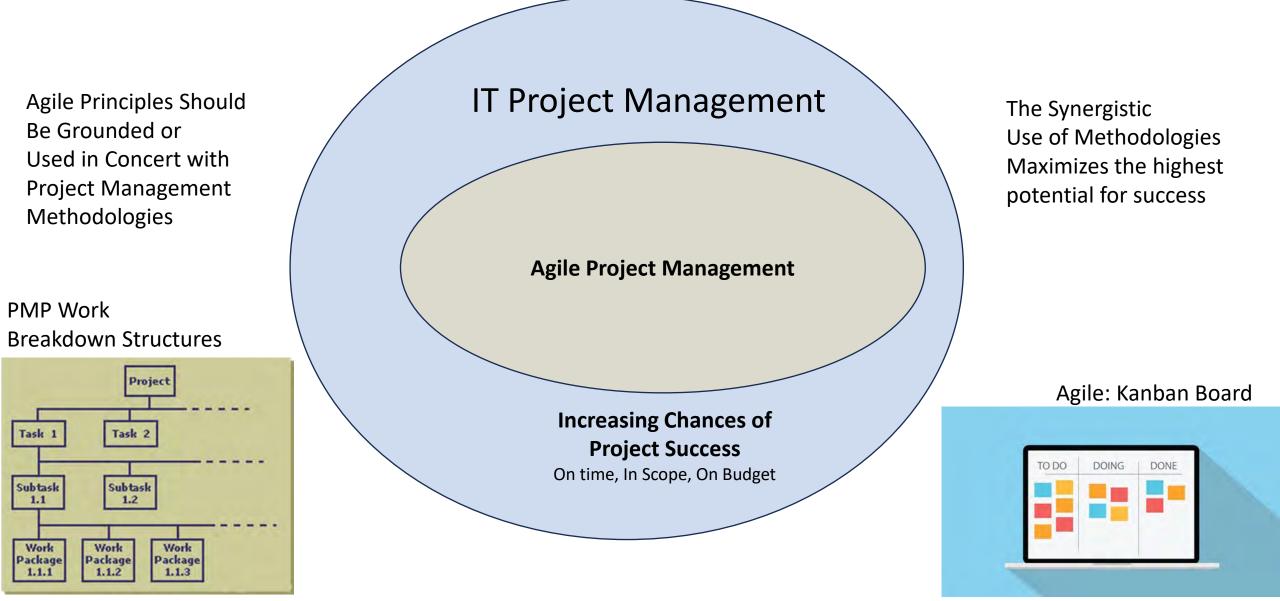
Agile Project Management, What is it?

#### Agile Possesses

Principles Methodologies Tools Software Histories Definitions Origins



#### **Project Management and Agile Techniques**



Principles Agile IT Project Management	Rearticulated for Libraries
User/Patron Satisfaction	Delivering Library IT Products that meets patrons needs
Embracing Change	Responding to change in Library requirements, priorities, and administrative conditions
Incremental Delivery	Delivering working software and technology in small, incremental releases
Self-Organizing Teams	Library Teams that have the authority and responsibility to organize themselves and make decisions



#### Agile Library Project Management

Principles Agile IT Project Management	<b>Rearticulated for Libraries</b>
Continuous Improvement	Fostering a culture of continuous library learning and improvement
Agile Planning	Emphasizing library IT flexibility and responsiveness in Library IT planning and prioritization
Early and Continuous IT Product Delivery	Delivering working library software as early and frequently as possible
Working Products/Software	Emphasizing the importance of delivering working library software that meets user needs



#### Origins: The Manifesto for Agile Software Development, 2001

Based on twelve principles and earlier Project Management Principles

- 1. Customer satisfaction by early and continuous delivery of valuable software.
- 2. Welcome changing requirements, even in late development.
- 3. Deliver working software frequently (weeks rather than months).
- 4. Close, daily cooperation between business people and developers.
- 5. Projects are built around motivated individuals, who should be trusted.
- 6. Face-to-face conversation is the best form of communication (co-location).
- 7. Working software is the primary measure of progress.
- 8. Sustainable development, able to maintain a constant pace.
- 9. Continuous attention to technical excellence and good design.
- 10. Simplicity-the art of maximizing the amount of work not done-is essential.
- 11. Best architectures, requirements, and designs emerge from self-organizing te
- 12. Regularly, the team reflects on how to become more effective, and adjusts accordingly.

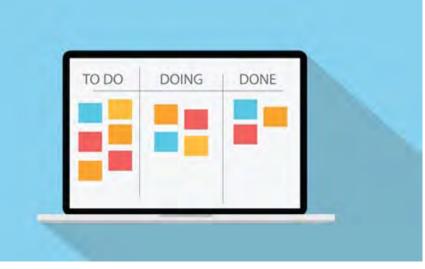


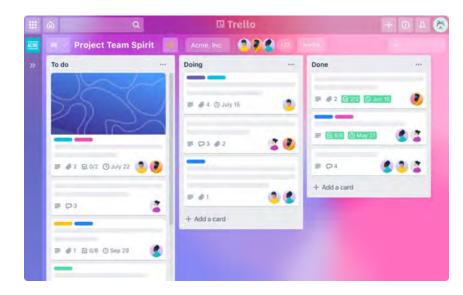
1990 - 2001

# Tools: Kanban Board



#### Kanban Board





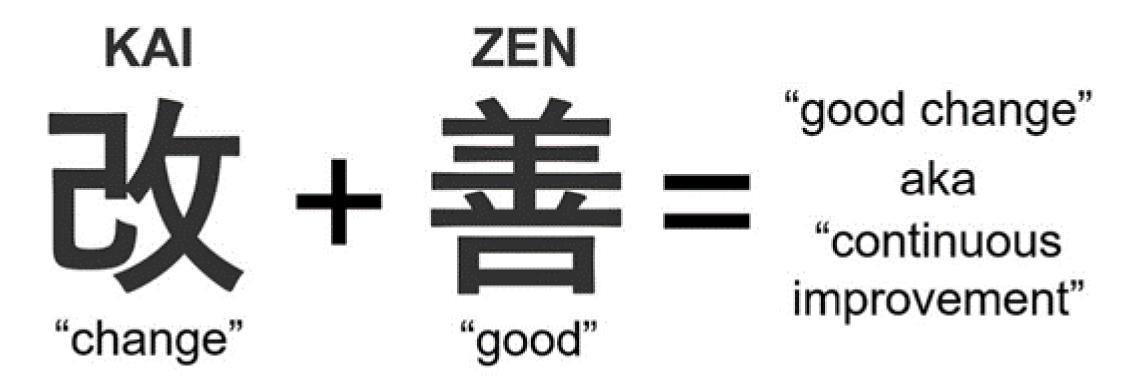


Kanban Simplified Board

Trello: Kanban Board Atlassian Software/Trello Combining Techniques Kanban and Sprint and Scrum

### Important Agile Principles

Kaizen, small incremental change, iteration



Kaizen: Correction of Errors, the change for the better (the good), TQM, Agile History: Toyota (Post World War II Japan, Reconstruction, American Efficiency Experts, Japanese Zen Philosophy, <u>https://www.youtube.com/watch?v=F5vtCRFRAK0</u>

# Agile: From Principles to Working Methodologies: Sprints and Scrums



Iterative Process, Vireo Example

#### Sprint

- Time boxed period (1-4 weeks)
- Set tasks
- MVP (Minimum Viable product)
- Review, Rinse, Repeat

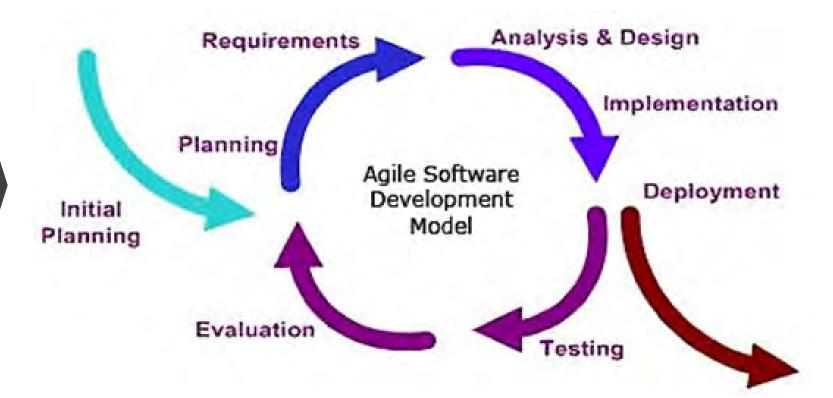
#### Scrum: Agile Team Framework (Rugby Term, HBR)

- Self organizing teams
- Continuous delivery
- Iterative Development
- Moving Ball Forward, Realigning

#### Outcomes

- Quick Response to Change
- Identify Roadblocks
- Higher Quality Product

Agile Software Development Model VIREO: Library Electronic, Dissertation and Theses Software



Vireo 4 Community Sprint

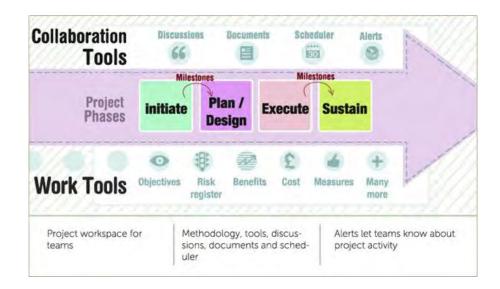
Iterative Design Principles: Versioning Sprints and Scrums

#### The Business Case for a Good Agile IT Project Managers: Separation of Project Management and Technologies

# A Day in the Life of a Project Manager

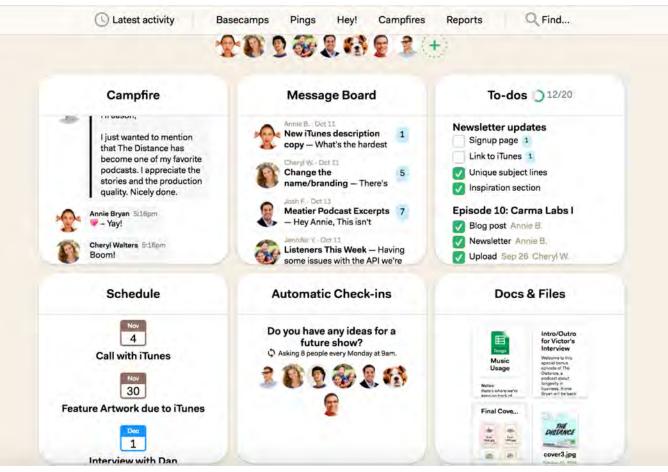
Project Management Formalization

Agile Project Managers Using Sprints and Kanban to Simplify Workflow Complexity through Collaboration Work Tools

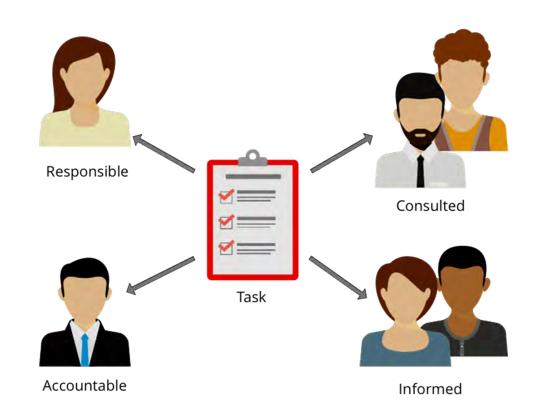


Collaboration Work Tools Create Communication Channels, Many New Software Possibilities: Atlassian Jira/Trello, Monday.com, Basecamp

# The Importance of Agile Software and the Circulation of Documents and Media



Basecamp Communication & Collaboration Tools



Agile Communication & PMP Assignment Matrix Techniques

#### Communication and Social Media Design Plans

Communication Design Plan

Campaigns



Media & Stakeholders

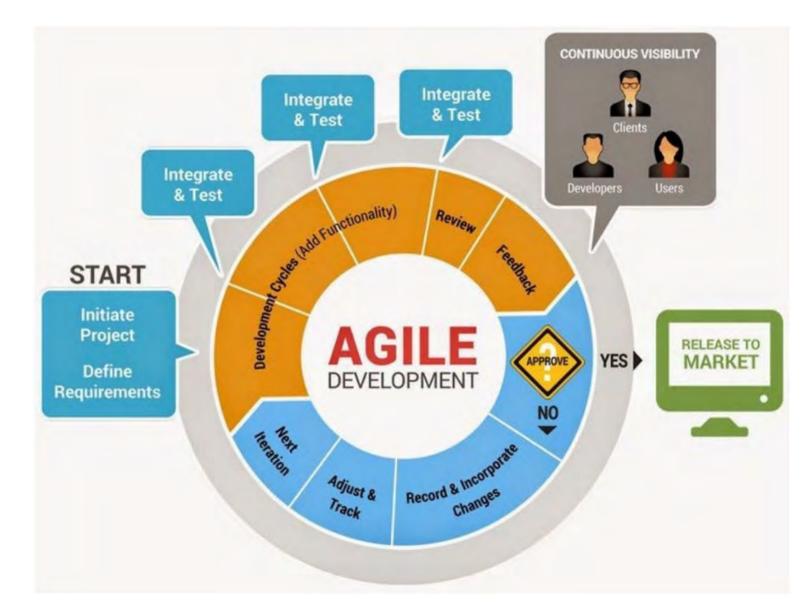
Social Media Plan & Design

Daily Pulse

Social Signals



## Agile Product Development Cycle





Alkek Library 2014



2017



## Final Admonitions for Agile IT Project Management

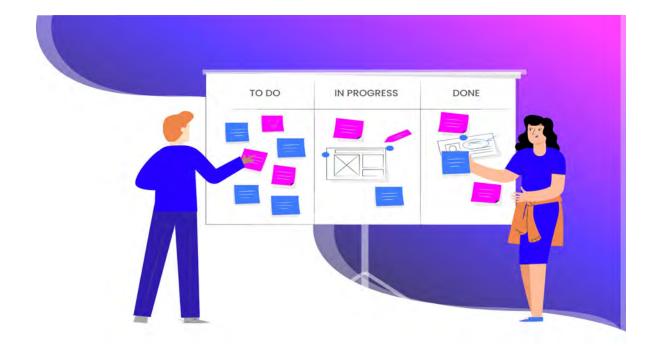
Agile	Definitions
Principles	
Iterative Development	Continuous improvement through frequent cycles of planning, development, and testing
User Involvement	Collaboration and feedback from end-users throughout the development process
Empowered Cross- Functional Teams	Multi-disciplinary teams with shared accountability and flexible roles
Adaptive Planning	Flexibility and responsiveness to changing requirements and priorities
Time-Boxed Delivery	Fixed periods of development with deliverables at the end of each cycle
Continuous Integration	Continuous integration of code changes and automated testing
Prioritization	Prioritization of features and tasks based on value and user needs
Collaboration	Collaboration and communication between team members and stakeholders







# Agile Zen Simplicity and Software



#### Q3 project overview ... III Main table 🗁 Timeline 🖤 Kanban III Dashboard + 🖄 Integrate 🚮 M 🕁 Automate / 2 🛛 🧥 This month Owner Status Timeline Priority 6 Due dat Finalize kickoff materials Sep 15 \* \* \* \* \* Refine objectives Sep 19 \*\*\*\*\* Identify key resources Stuck Sep 22 $\star$ Test plan Sep 26 $\star$ $\star$ $\star$ $\star$ Next month Owner Status Timeline Due date Priority Update contractor agreement Oct 10 \*\*\*\* Conduct a risk assessment Oct 13 $\star$ $\star$ $\star$ $\star$ Monitor budget Stuck $\star$ Oct 19

Develop communication plan

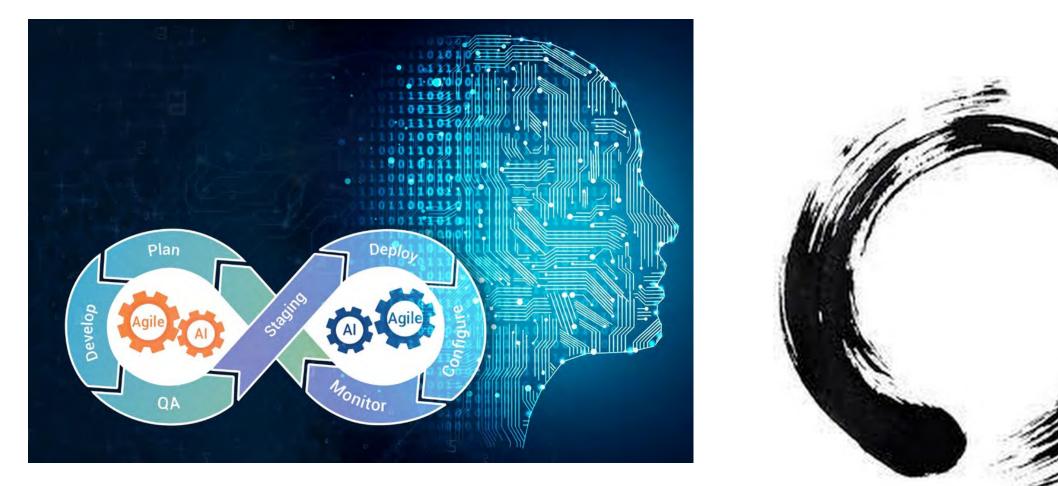
Monday.com Project Overview Kanban Board Variation

Oct 22

 $\star$   $\star$   $\star$   $\star$ 

#### The Future

As we get into complex Library AI Projects, we need agile efficiencies more than ever



Kaizen, Kanban, Sprints and Scrums Simplicity, Clarity, Small Good Changes



Any sufficiently advanced technology is indistinguishable from magic.

Arthur C. Clarke Future Visions, 1953

**Thank You!** Associated Paper: The Application of Agile Project Management Principles for Library IT Ray Uzwyshyn, Ph.D. MBA MLIS Associate Dean, Collections and Strategy Mississippi State University Libraries, USA ruzwyshyn@gmail.com, http://rayuzwyshyn.net

#### **References and Software:** Principles, Project Management and Agile

- Agile Connection. (2023). Lean and Kanban Agile Techniques. https://www.agileconnection.com/topics/lean-kanban
- Allan, B. (2004), Project Management: Tools and Techniques for Today's ILS Professional. Facet: London, UK.
- Ambler, S. W. (2009). Agile project management for information technology. Information Management & Computer Security, 17(1), 5-12. doi: 10.1108/09685220910938337.

Atlassian. (2023) Atlassian's No-Nonsense Guide to Agile Development. https://www.atlassian.com/agile

- Bartlett, J. (Fall 2011). Project management in libraries, archives and museums. *Reference Quarterly.* 51(1). 87-88.
- Basecamp (2023). Project Management Software. 37 Signals. https://basecamp.com/
- Beck, et al. (2022). What is the Agile Manifesto. Agile Alliance. <u>https://www.agilealliance.org/agile101/the-agile-manifesto/</u>
- Bloomberg Originals. (2018). Agile History: How Toyota Changed the Way We Make Things. Youtube Video: https://www.youtube.com/watch?v=F5vtCRFRAK0
- Carpenter, J. (2010). *Project Management in Libraries, Archives and Museums: Working with government and other external partners.* Chandos, Cambridge, UK
- Cervone, H.F (2008). Developing a business case for a digital library project. OCLC Systems and Services. 24:1. 18-21.
- --- (2011). Overcoming resistance to change in digital library projects. OCLC Systems and Services. 27:2. 95-98.
- Chang, May (2010). An agile approach to library IT innovation. *Library High Tech.* 28:4. 672-689.
- Fagan, J.C. and Keach J. (2011) Managing web projects in academic libraries. *Library Leadership and Management*. *25:3*. pp. 1-23.



#### References Continued

- Harirajan, Praveen. (2023). Fractal Analytics. (2023). Applying the Agile Methodology to Artificial Intelligence and Machine Learning Projects. <u>https://nealanalytics.com/blog/applying-the-agile-methodology-to-ai-ml-projects/</u>
- HPT Agile. (2020). History of Agile and Lean. Youtube Video: https://www.youtube.com/watch?v=WKIy8nssMQc
- Horwath, J.A. (2012), "How Do We Manage? Project Management in Libraries: An Investigation." Partnership: The Canadian Journal of Library and Information Practice and Research. 7:1
- IEEE Standard 105-1998. IEEE Standards Association. Available from: <u>https://standards.ieee.org/findstds/standard/1058-1998</u>.
- IT Cortex (2008). Project failure statistics. IT-cortex.com Retrieved from http://www.it- cortex.com/Stat\_Failure\_Cause.htm
- Klapwijk, Wouter (January 2023). Applying Agile Principles for ICT Operations Management in an Academic Library Setting. <u>Trends and Issues</u> in Library Technology: IFLA.
- Lopatin, L (2006). Library digitization projects: issues and guidelines. *Library Hi Tech.24:2*. 273-289
- Massis, B (2010). Project management in the library. *New Library World.* 111:11/12. 526-529.
- Monday.com (2023). Visual Work Management Agile Tools. https://monday.com/product
- Schwalbe, K. (2011). *Information technology project management (6<sup>th</sup> ed.)*. Boston, MA: Cengage Learning Course Technology.
- Trello (2023). Visual Project Management. Atlassian. https://trello.com/home
- Schwaber, Ken, and Jeff Sutherland. (2023) "The Scrum Guide." Scrum.org. Accessed April 8, 2023. <u>https://www.scrum.org/resources/scrum-guide</u>.
- Uzwyshyn R.(June, 2023 ed.), Chilton G., Gendreau et al., Yon, A. Trends and Issues in Library Technology: <u>Special Issue on Agile Project</u> <u>Management</u>.
- Weerakoon, Sameera. (2019) How Japanese Manufacturing Influenced Agile: A Brief Explanation on Scrum vs. Kanban. Medium. <u>https://sameera17w.medium.com/how-japanese-manufacturing-influenced-agile-a-brief-explanation-on-scrum-vs-kanban-c7962c63ef64</u>