THE MAGIC LOGIX GUIDE TO

AGILE WEB DEVELOPMENT AND THE SCRUM PROCESS

INTRODUCTION

To be agile is to move swiftly or quickly. This term has recently popped up within business and management terminology. However, the phrase moves well beyond a buzz term (sorry for you fans of 'synergy' out there – agile actually conveys some real meaning). This whitepaper is here to clarify just what the agile approach and attitude is, define the scrum process associated with this school of thought, and to provide real life examples of just how it's effective.

scrum master

sprint

product owner   product backlog   sprint backlog   product
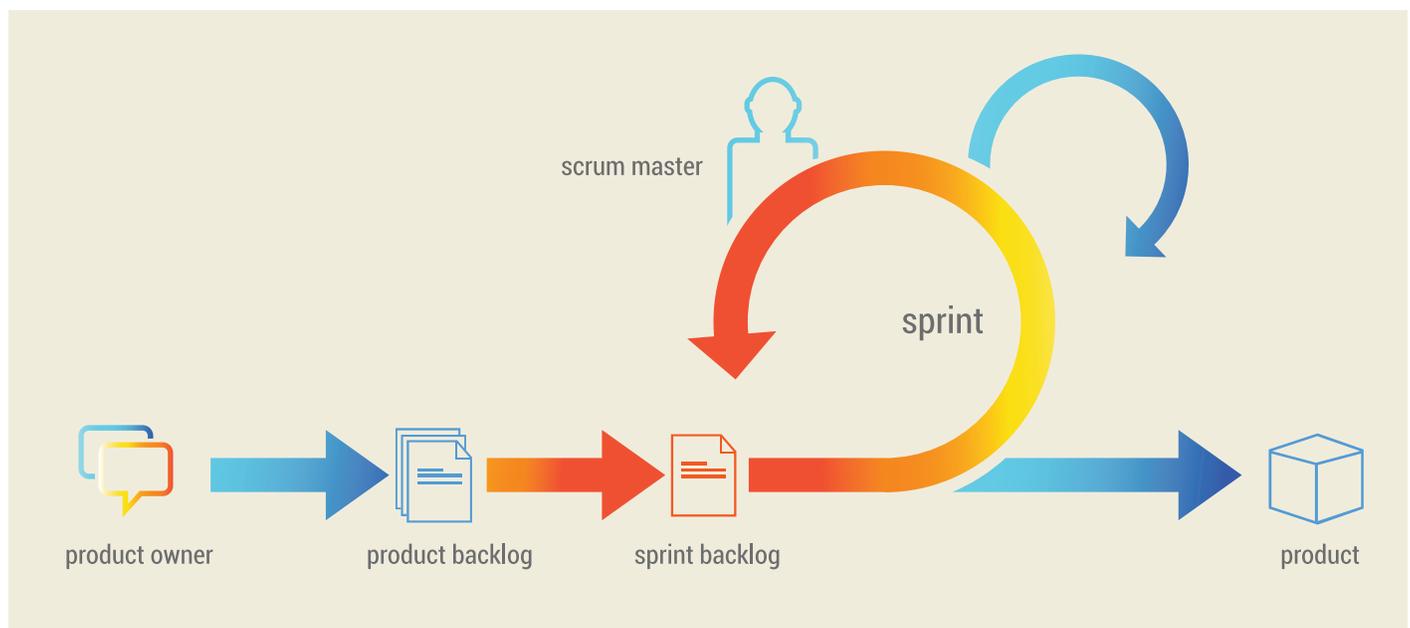
WHAT IS AGILE WEB DEVELOPMENT & WHY SHOULD I USE IT?

An agile approach to web development is an attitude that promotes adaptation, cross-functionality and continual collaboration amongst a team. To be agile, you must constantly be thinking months in advance and have to adapt to any changes that may arise. You're planning early on, meeting with your team in scrum huddles, establishing deliverables, meeting goals ahead of schedule and making continual improvements. It's 100% necessary that you are completely flexible during this process. Within this flexibility, you must anticipate change and respond accordingly. A rigid structure will get you nowhere in today's business climate. You've got to predict, execute and adapt.

PREDICT   **EXECUTE**   **ADAPT**

WHAT IS AGILE WEB DEVELOPMENT? (CONTINUED)

A cornerstone of agile web development is also the **scrum** process. We'll get more into this a little later, but this process gets its name from a rugby huddle. The team has a quick meeting, discusses progress and implementation and then goes their separate ways, while still functioning as an autonomous unit. Afterward, all relevant information is continually relayed to the client and the projects are divided into sprints and user stories. It helps **foster proper communication** and maintain an ideal agency/clientrelationship.

Adopting an agile process helps eliminate un-necessary wastes of time and allows your team to allocate those precious minutes and hours on actions and processes that add value to your website. Agile web development can easily be summed up with one word: **efficiency**.

SCRUM?

TRADITIONAL VS. AGILE DEVELOPMENT

TRADITIONAL APPROACH

Traditional web development is a much longer process, and one that does not respond well to change. This style of development works off a **"waterfall method"** and is very monolithic in structure. It's rigid from the very beginning of the project. The team often sits down with the client and adopts a plan before development starts. The most noticeable problem with this is that zero flexibility is provided. Everything is set in stone and the development team really only involves the customer in the start of the project and during final testing phases. Therefore, changes in technology, business requirements and the scope of the project cannot properly be accounted for. It makes it hard to change direction if need be in the middle of the project or adapt to unforeseen external factors. This process results in more time spent on project tasks and a bigger headache for all parties involved. We live in a fast paced world where changes in technology are constant. It makes zero sense to just stay the course without adapting to the world around us.
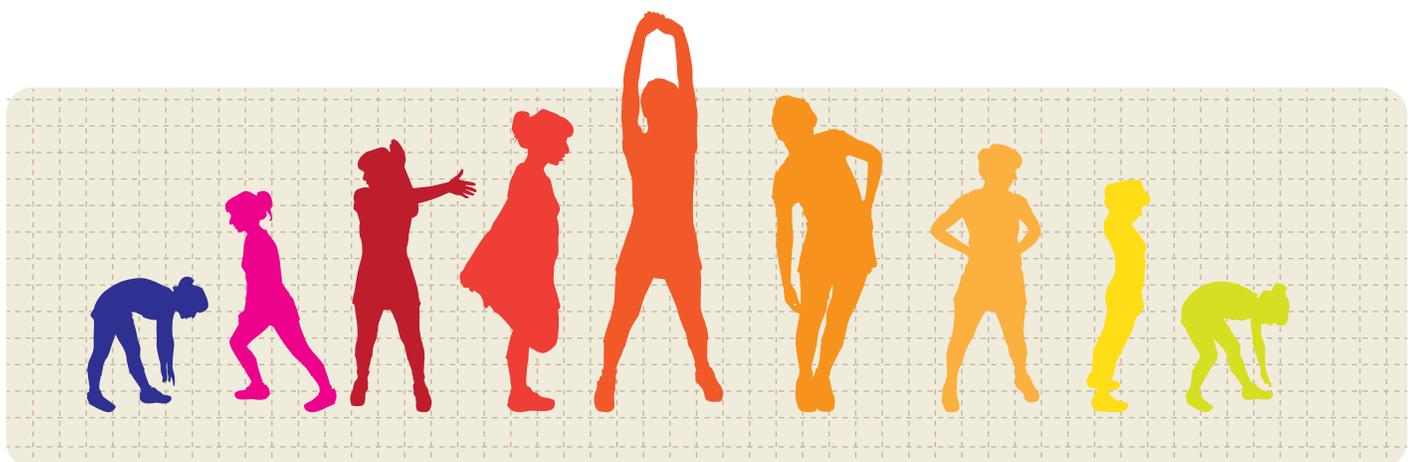
TRADITIONAL VS. AGILE DEVELOPMENT (CONTINUED)

AGILE APPROACH

An agile approach differs from this traditional method in that everything is open to change. The development team plans for the big picture and works on the smaller details correspondingly. The goal is to build the **core functionality first** and then add features. In other words, the business value is the immediate goal followed by all the features that help make the website unique. Unlike traditional web development, this allows the team to adapt to new technology, business requirements and goals that may arise. If there's a change in the middle of the development process, both the team and client aren't caught with their guard down. Additionally, the customer is involved in all areas (constant team interaction followed by team/client interaction and meetings help keep the client informed and play a gargantuan role in site changes). Testing occurs as the project develops, as opposed to during the final stages. The end result is less time spent on unnecessary time wasters, and a **client-centric project** that reaches completion in a faster timeframe. In short, you receive a better end product.

FACTORING SCRUM METHODOLOGY INTO AGILE DEVELOPMENT

Scrum is an iterative methodology used within agile web development that helps manage the development of a product. Much like a rugby huddle, the team and clients discuss project initiatives and then go their separate ways, still functioning as one cohesive unit. This **continual communication between agency and client** is a stark contrast to what we've seen in traditional web development's waterfall approach.

One of the key components to this methodology is that the client is allowed to change their mind during the production phases. These changes/challenges are then addressed head on, as the scrum methodology adopts an **experiental approach**. There is a common understanding that the team is to quickly deliver on changes that arise to the structure.

SCRUM: HOW DOES IT WORK?

Scrum is written from the perspective of the end user. By thinking of what the user desires/needs, it allows the team to better understand how to achieve goals for the website. A simple way to look at this is to think of this by using the following sentence:

"As a (role) I want (feature) so that (benefits)."

As you collect user stories, you begin to acquire a product backlog, which is a collection of user stories. These help facilitate direction and milestones.

Now, let's look at the key components to the team:

Product Owner
sets direction

Scrum Master
looks over the project,
like a project manager

Developers
build the product

Testers
ensure everything
runs smoothly

SCRUM: HOW DOES IT WORK? (CONTINUED)

The first component of scrum details release planning. As mentioned previously, the team should build a product backlog. From there, they should identify which stories they'd like to use and prioritize and estimate the time of work needed per task. This allows the team to estimate the appropriate time for the project's release.

When estimating the work needed, it's best for the team to estimate their work in hours (for smaller projects) and days (for larger projects). Estimates should be done in a structure as follows to allow for cohesiveness in estimating projects:

➡ **Smaller Tasks:** 1, 2, 4, 8 hours ➡ **Larger Items/Workflow:** 2, 3, 5, 10 days
➡ **Most Extreme Tasks:** 1, 2, 3, 6 months

From there, the team is able to plan out their sprints. A sprint backlog consists of short duration milestones. This allows the team to tackle the project in manageable chunks. Sprints often range from a couple of days to 30 days in length for the largest tasks. Breaking everything down to sprints helps set a realistic time frame of a project and aids in proper project evaluation. A late finish to a sprint indicates the project is behind schedule and something must be done to get the team on track.

SCRUM: HOW DOES IT WORK? (CONTINUED)

A **burndown chart** is often used to monitor the progress of each sprint. This is one of the most popular features of scrum when working within agile web development. A burndown chart typically features the time taken while working on a project on the X axis and the work that needs to be completed on the Y axis. As completion nears, the chart should slope downward with two different lines measuring progress: **ideal tasks** remaining and **actual tasks** remaining.

Typically when measuring progress, if the actual work line is above the ideal work line, the project is most likely behind schedule, as there is more work to do than originally estimated. As you can imagine, the reverse of this means the project is most likely ahead of schedule.

The chart should always trend towards zero. For analytical purposes, the team can also calculate the average rate of productivity, which can in turn be used to calculate the average completion date. The chart is also helpful in making adjustments to the project when necessary.
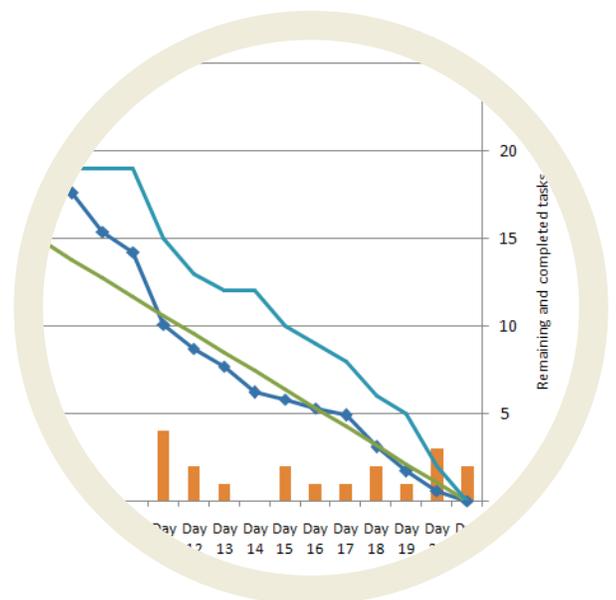
SCRUM: HOW DOES IT WORK? (CONTINUED)

All data comes from the **release backlog**. This represents the total amount of time needed to complete each sprint.

Packaged within the scrum process is also the **daily scrum**. These are fast paced meetings held every morning by the development team. They list the work they have completed and obstacles they may encounter. This ensures that the team is working together and major issues are dealt with accordingly before they become problematic.

After the project has reached completion, the team may also participate in **sprint retrospective meetings**, where they analyze what went right and where areas of improvement were needed. This helps ensure success for all future projects.

| daily scrum | release backlog | product | sprint retrospective meetings |
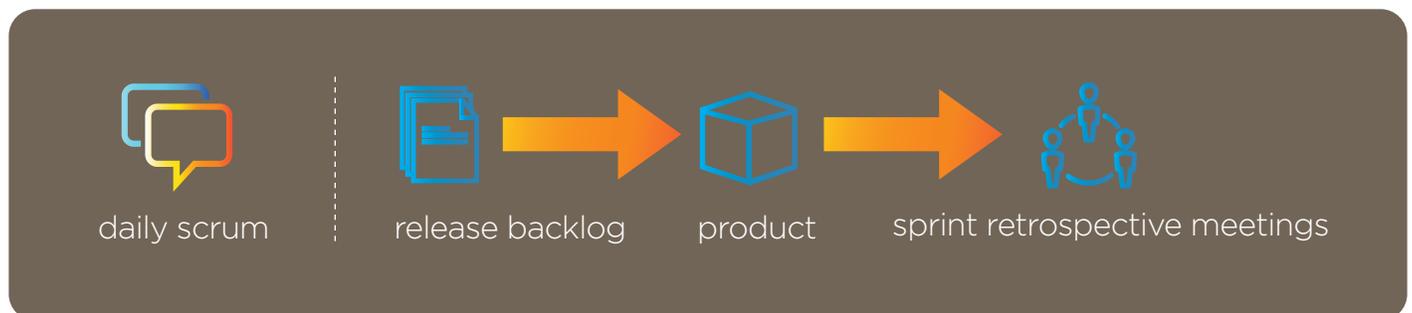
AGILE WEB DEVELOPMENT: IS THIS REAL LIFE?

You bet it's real life. We've been practicing agile web development for quite some time here at Magic Logix and have achieved beyond desirable results. Notable companies we've used an agile process with have been:

→ **Success Magazine**
→ **Actian**
→ **Frontrange**
→ **Gloria's Latin Cuisine**

Each of these projects had completely different objectives and varying project scopes, but through our agile development process the team was able to meet deliverables quickly and efficiently. For similar tasks across the board, it made estimation time easier. For each project, changes had to be made on the fly and our team had to respond accordingly. There is no doubt that agile development aided our response time, communication between our team and our clients, and help complete all objectives ahead of schedule.

AGILE WEB DEVELOPMENT AND SCRUM: A SUMMATION.

An agile web development process coupled with the scrum methodology are key components to web development. More than just mere buzzwords, they are vital pieces of the puzzle. The ability to make changes on the fly, to foster proper communication between agency and client and to streamline the process into measurable analytics should be a cornerstone on every project undertaken. Each project is finished in a timely fashion that is easily measurable and changes in technology and project scope/objectives can properly be accounted for.
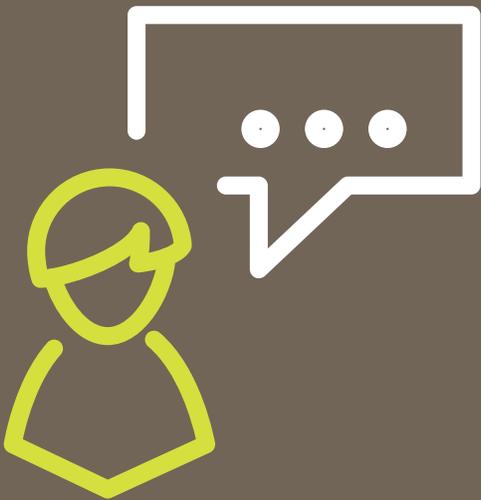
"Agile project management and the scrum methodology is very important to our work-flow. The fact that requirements will changes is taken account right from the start. This improves our productivity and reduces stress while giving the team more autonomy."

- Sam Timalsina, Sr. Web Developer, Magic Logix

Need more info about agile web development and scrum? Visit us at **www.magiclogix.com** and let's get started on your next project.