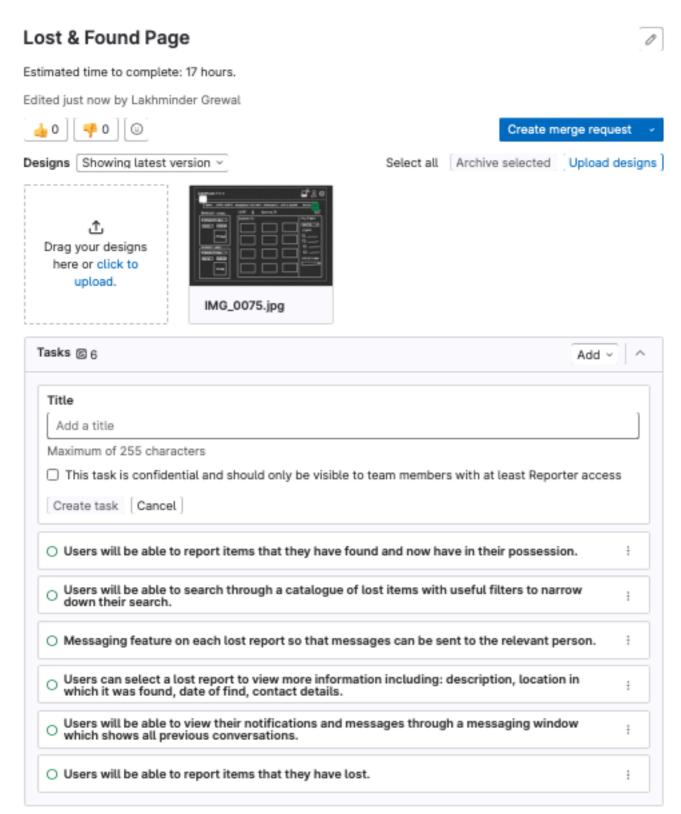
## **Lakhminder Grewal S2 Submission**

## **Agile Estimation of Feature Cards:**

Roughly estimating, to complete all tasks for the lost and found page, it should take around 17 hours.



## **Tech Research Report: Development Processes**

The software development process refers to a set of structured activities required to develop a software system. The development process is a complex and iterative process that requires careful planning, analysis, design, coding, testing, and maintenance. There are many different types of development processes including: Agile, Waterfall & Scrum, they offer different approaches to software development and come with their own advantages and disadvantages. Throughout this team project, we will be learning agile development practices by doing, which will be combined with industry-standard techniques development techniques such as Kanban, CI/CD, Git, Code Reviews etc. Therefore, in this Tech Research Report I will be demonstrating my research on the Agile development process to benefit my team during the development phase by reinforcing key elements of the process and building general understanding.

Firstly, here is a brief introduction to the Agile development process:

Agile development process is a software development methodology that emphasises collaboration, flexibility, and responsiveness. The agile development process involves iterative and incremental development, where the software is developed in small and frequent releases. Agile development focuses on individuals and interactions, customer collaboration, and responding to change. Furthermore, it emphasises delivering small increments of working software rather than waiting until the end of the development process to deliver a complete product. As a result, agile has become one of the most popular development methodologies with it being used by at least 71% of U.S. companies.

The Agile Manifesto outlines these four key values:

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

How does the agile development methodology work?

Agile development is made up of short development cycles, typically lasting two to four weeks, called sprints. Each sprint results in a working product increment which is demonstrated to the customers and stakeholders for feedback. Thus, development teams can ensure that each sprint delivers value to clients or customers and meets their priorities/needs.

How does agile compare to other development processes?

Waterfall is a linear, sequential approach where each phase of development follows in an order. The stages of the waterfall method include planning, design, implementation, testing and maintenance. This approach emphasises planning and documentation and has a rigid structure where one phase must be completed before the next. It is most suited to a project in which the requirements are clear and not ambiguous. On the other hand, agile development is an iterative approach which reinforces delivering software in frequent iterations with continuous feedback and adaptation throughout. It is most suited to a project where in which the requirements are constantly evolving and are subject to change.

What are the benefits of the agile development process?

Advantages	Disadvantages
Software delivered faster than traditional development	Increased initial investment.
processes.	
Adaptation to changing requirements and customer needs.	High level of collaboration required between developers,
	stakeholders, and customers.
Reduced costs as a result of reduced risk of restarts and	Difficult to plan and allocate resources as a result of

unpredictability,

What practices does agile development include?

defects.

- Scrum: A framework for agile project management that includes daily meetings, spring planning, and regular retrospectives.
- Kanban: A visual system for managing work that involves the use of a Kanban board to visualise the flow of work throughout the development process.
- Continuous integration and delivery: The practise of integrating code changes frequently and delivering working software regularly.
- Test-driven development: A development approach that involves writing automated tests before code.

```
Last login: Wed Mar 8 14:59:54 on ttys000
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
Santoshs-MBP:~ santoshgrewal$ cd Desktop
Santoshs-MBP:Desktop santoshgrewal$ cd teamproject
Santoshs-MBP:teamproject santoshgrewal$ cd team20-22
Santoshs-MBP:team20-22 santoshgrewal$ git pull
Already up to date.
Santoshs-MBP:team20-22 santoshgrewal$ git add .
Santoshs-MBP:team20-22 santoshgrewal$ git commit -m "added lost and found page entities"
[main 1fd45a5] added lost and found page entities
Committer: Lakhminder Grewal <santoshgrewal@santoshs-mbp.home>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:
   git config --global --edit
After doing this, you may fix the identity used for this commit with:
   git commit --amend --reset-author
1 file changed, 4 insertions(+), 1 deletion(-)
Santoshs-MBP:team20-22 santoshgrewal$ git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 359 bytes | 359.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
To git.cs.bham.ac.uk:team-projects-2022-23/team20-22.git
  e17abe4..1fd45a5 main -> main
```