SE Assignment 3

Group Members

Roll Number	Name
22i-0983	Muhammad Taha
22i-0878	Muhammad Ibrahim Awais
22i-8223	Sameed Ahmed

Project Repository

GitHub Link:

https://github.com/i220878/SE_PCPartVisualizer

User Stories

Completed User Stories

- **US1:** Users can search for PC components by category and brand.
- **US2:** Users can add components to a build list.
- **US3:** Users receive compatibility warnings if selected parts are not compatible.
- **US4:** Users can see price comparisons from different retailers.
- **US5:** Users can save multiple builds.
- **US6:** Users can see a 3D model of their selected components.
- **US7:** Users can rotate, zoom, and inspect their PC build in the 3D viewer.
- **US8:** The 3D viewer highlights potential compatibility issues.
- **US9:** Users can toggle between different case side panels.
- **US10:** Users can change lighting and color schemes in the 3D viewer.
- **US16:** Users can export their build as a detailed PDF.
- **US17:** Users can filter component search results by power consumption.
- **US18:** The system recommends a power supply based on selected components.
- **US25:** Users can see estimated shipping times for each component.

In Progress User Stories

- **US11:** Users can generate a shareable link to their PC build.
- **US20:** Users can generate a step-by-step build guide.

Remaining User Stories (Product Backlog)

- **US12:** Leave reviews on specific components.
- **US13:** View user-submitted builds with photos/specs.
- **US14:** Comment/discuss other users' builds.
- **US15:** Follow builders, notifications of new builds.
- **US19:** Simulate airflow in 3D viewer.
- **US21:** Manage/access builds from mobile device.
- **US22:** Mobile-optimized interface.

- **US23:** Notifications for price drops.
- **US24:** Checkout from integrated online stores.

Gantt Chart

The Gantt chart below illustrates the timeline and distribution of tasks among team members for the SE_PCPartVisualizer project. Each phase, from requirements gathering to testing and deployment, is mapped with estimated start and end dates, ensuring clear visibility of project progress and deadlines.
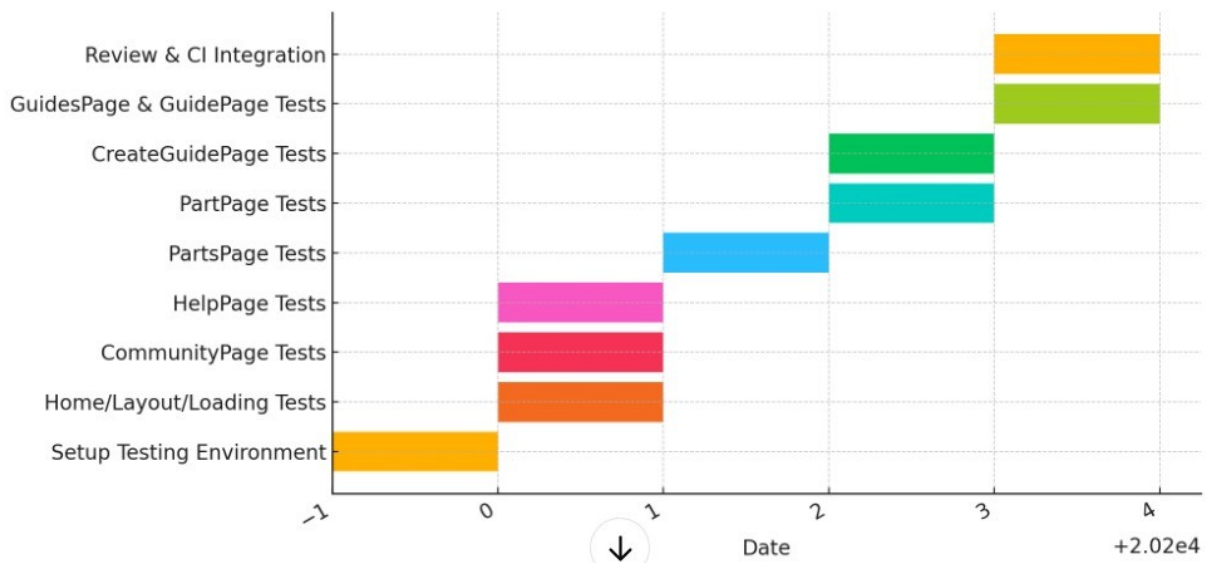
Burndown Chart

The burndown chart tracks the remaining work in the sprint backlog over time. It helps visualize the team's progress and ensures that the project is on track to meet its deadlines. The chart is updated daily to reflect completed tasks and remaining workload.

Sprint Burndown: Bar and Line Combination

Sprint Snapshots

First snapshot:

Second Snapshot:

SE Sprint

Total Product Backlog
- Users receive notifications for price drops.
- Users can check out directly from integrated online stores.
- Users can simulate airflow inside the case using the 3D viewer.
- Users can leave reviews on specific components.
- Users can view user-submitted builds with photos and specs.
- Users can follow builders and receive notifications of new builds.
- Users can comment on and discuss other users' builds.
- Users can manage and access their builds from a mobile device.
- Users get a mobile-optimized interface for easy navigation.
+ Add a card

LEFTOVER
+ Add a card

Sprint 3 Backlog
- Users can change lighting and color schemes in the 3D viewer.
- Users can generate a shareable link to their build.
- Users can generate a step-by-step build guide.
- Users can toggle between different case side panels in 3D.
- Users can compare prices from different retailers.
- Users can view estimated shipping times for each component.
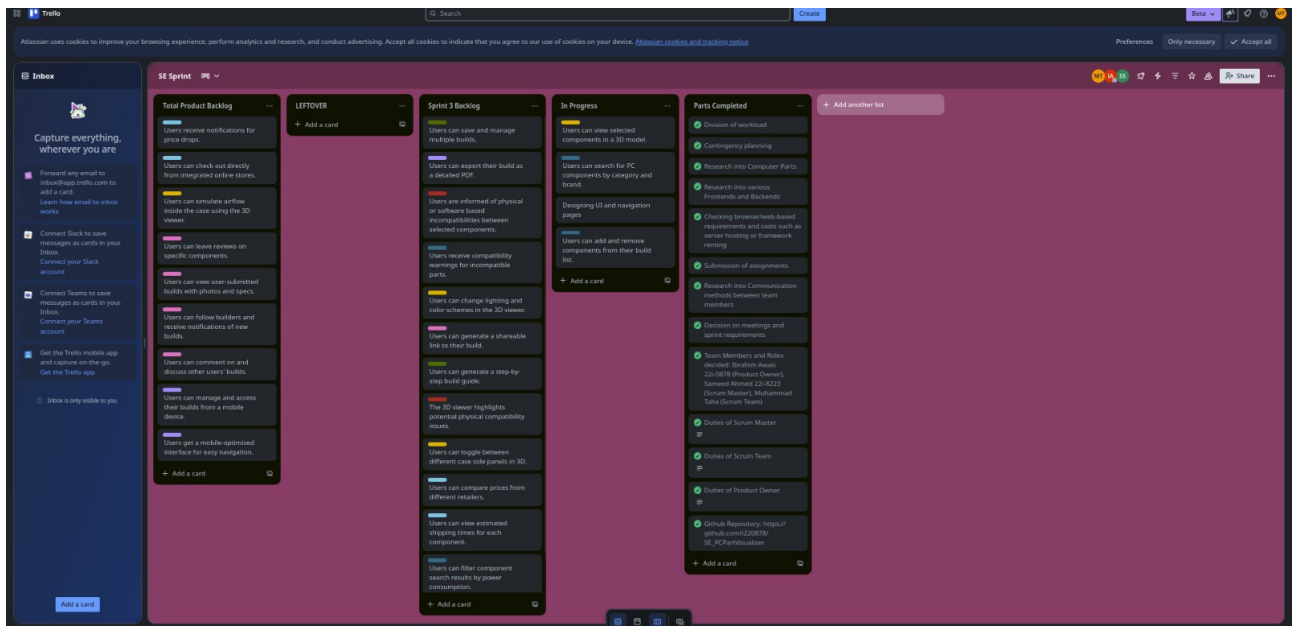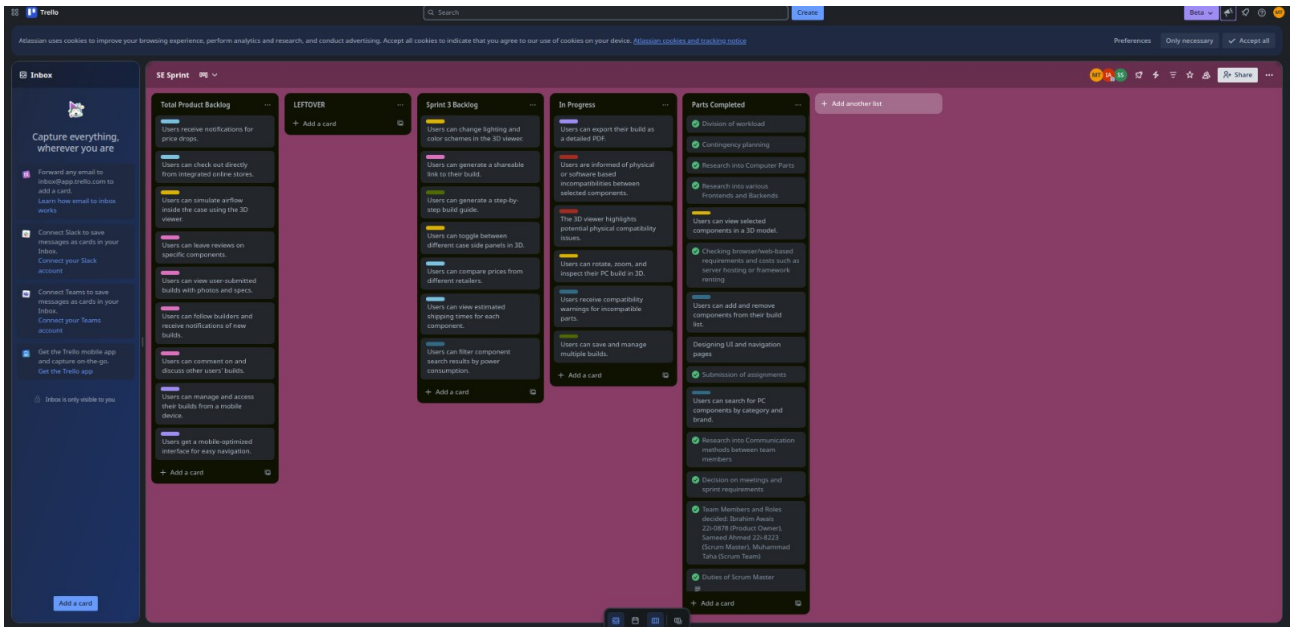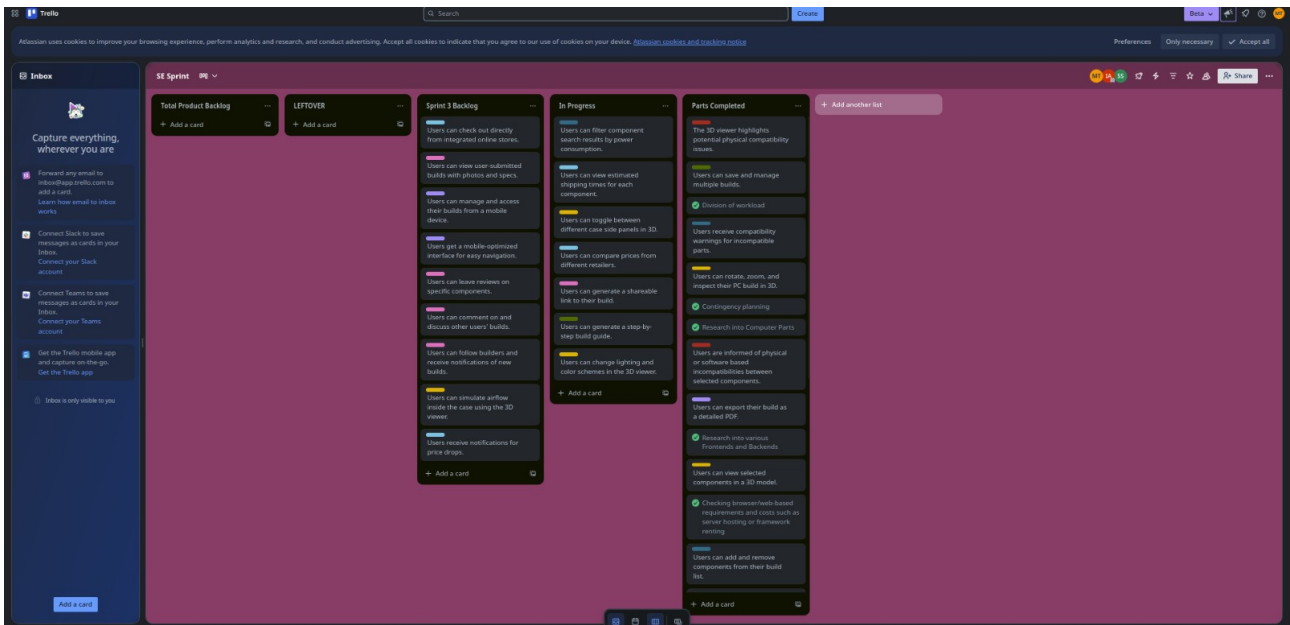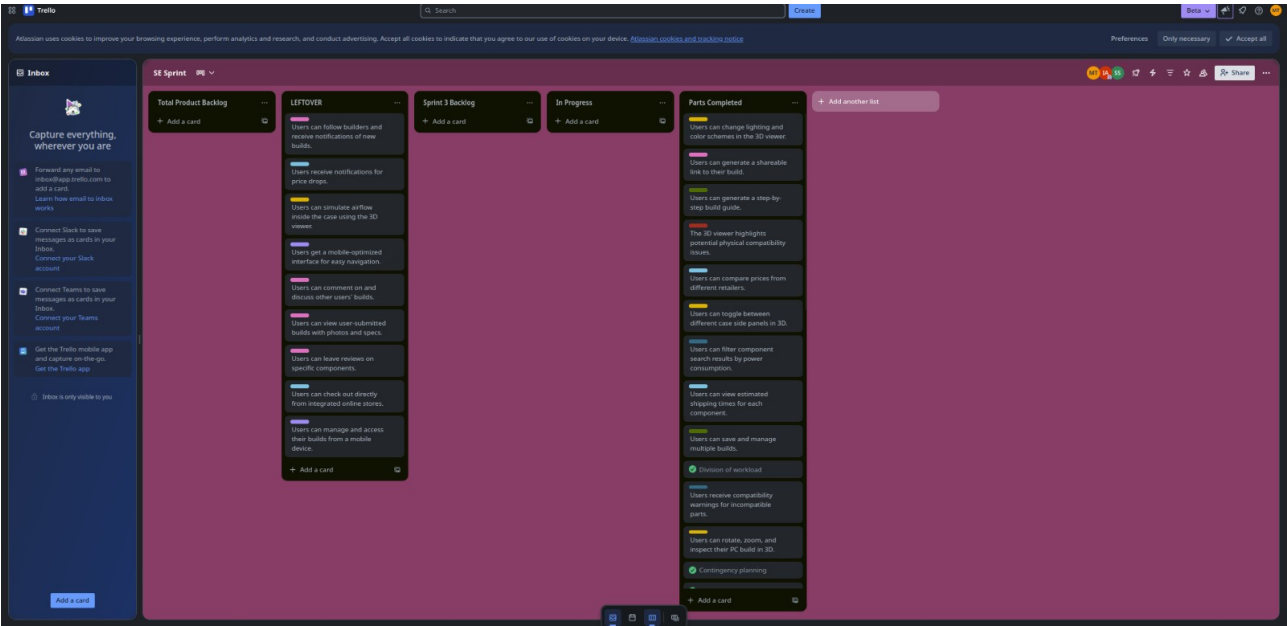- Users can filter component search results by power consumption.
+ Add a card

In Progress
- Users can export their build as a detailed PDF.
- Users are informed of physical or software based incompatibilities between selected components.
- The 3D viewer highlights potential physical compatibility issues.
- Users can rotate, zoom, and inspect their PC build in 3D.
- Users receive compatibility warnings for incompatible parts.
- Users can save and manage multiple builds.
+ Add a card

Parts Completed
- Division of workload
- Contingency planning
- Research into Computer Parts
- Research into various Frontends and Backends
- Users can view selected components in a 3D model.
- Checking browser/web-based requirements and costs such as server hosting or framework renting
- Users can add and remove components from their build list.
- Designing UI and navigation pages
- Submission of assignments
- Users can search for PC components by category and brand.
- Research into Communication methods between team members
- Decision on meetings and sprint requirements
- Team Members and Roles decided: Ibrahim Awais 22i-0878 (Product Owner), Sameed Ahmed 22i-8223 (Scrum Master), Muhammad Taha (Scrum Team)
- Duties of Scrum Master
+ Add a card

+ Add another list

Third snapshot:

SE Sprint

Total Product Backlog
+ Add a card

LEFTOVER
+ Add a card

Sprint 3 Backlog
- Users can check out directly from integrated online stores.
- Users can view user-submitted builds with photos and specs.
- Users can manage and access their builds from a mobile device.
- Users get a mobile-optimized interface for easy navigation.
- Users can leave reviews on specific components.
- Users can comment on and discuss other users' builds.
- Users can follow builders and receive notifications of new builds.
- Users can simulate airflow inside the case using the 3D viewer.
- Users receive notifications for price drops.
+ Add a card

In Progress
- Users can filter component search results by power consumption.
- Users can view estimated shipping times for each component.
- Users can toggle between different case side panels in 3D.
- Users can compare prices from different retailers.
- Users can generate a shareable link to their build.
- Users can generate a step-by-step build guide.
- Users can change lighting and color schemes in the 3D viewer.
+ Add a card

Parts Completed
- The 3D viewer highlights potential physical compatibility issues.
- Users can save and manage multiple builds.
- Division of workload
- Users receive compatibility warnings for incompatible parts.
- Users can rotate, zoom, and inspect their PC build in 3D.
- Contingency planning
- Research into Computer Parts
- Users are informed of physical or software based incompatibilities between selected components.
- Users can export their build as a detailed PDF.
- Research into various Frontends and Backends
- Users can view selected components in a 3D model.
- Checking browser/web-based requirements and costs such as server hosting or framework renting
- Users can add and remove components from their build list.
+ Add a card

+ Add another list

Fourth Snapshot:

Equivalence Classes Partitioning

The image below demonstrates the equivalence class partitioning applied to the input validation module of the PC Part Visualizer. It categorizes valid and invalid input ranges, ensuring comprehensive test coverage and robust validation logic.

Equivalence Classes	#Classes	Weak EC TCs	Weak EC TCs
['Category {valid, invalid}', 'Brand {valid, invalid}']	4	4	4
['Component {exists, does not exist}']	2	2	2
['Selection {compatible, incompatible}']	2	2	2
['Component {has price, no price}']	2	2	2
['Build {name unique, name duplicate}']	2	2	2
['Components {selected, none selected}']	2	2	2
['Angle {within range, out of range}']	2	2	2
['Selection {issues present, no issues}']	2	2	2
['Panel {open, closed}']	2	2	2
['Scheme {valid, invalid}']	2	2	2
['Build {non-empty, empty}']	2	2	2
['Range {valid, negative, non-numeric}']	3	3	3
['Selection {adequate, inadequate}']	2	2	2
['Shipping {info available, info unavailable}']	2	2	2